The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 618.—Vol. XVII. LONDON, SATURDAY, JUNE 26, 1847. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

PURSUANT to a DECREE of the VICE-WARDEN'S COURT, made in the cause of "Hill v. Vigurs," the creditors in respect of the ROYAL FOLBERROW MINE, otherwise the ST. AGNES CONSOLIDATED MINES, in the parish of St. Agnes, within the said Stannaries, are, on or before the first day of July next, to come in and PROVE THEIR DEBTS before the Registrar of the said Court, at his office in Truro; or, in default thereof, they will be peremptorily excluded the benefit of the said Decree.—Dated Registrar's Office, Truro, the 19th day of June, 1847. 1

FLINTSHIRE.

SALE OF most IMPORTANT and HIGHLY VALUABLE FREEHOLD PROPERTY, consisting of all those extensive and newly-erected premises, the GREENFIELD ZINC-WORKS,

Occupying an area of upwards of four statute acres, together with all the RAILWAYS, WHARFS, and LANDS adjoining and surrounding the same, comprehending, in the whole, nearly THIRTY STATUTE ACRES OF LAND, through the centre of which the line of the Great Chester and Holyhead Railway passes, besides having a spacious quay, or wharf, and a considerable frontage to the River Dee—thus possessing within itself the paramount advantages of water and railway communication; and immediately after the above, a SALE will be held of the whole of the MACHINERY and UTENSILS belonging to the premises, and others, removed from the Mostyn and Abbey Collieries, comprising—

A beautiful finished 300-horse power bright STEAM-ENGINE, which has scarcely been used
Two smaller BLACK ENGINES (one fixed on the premises, with force pumps, double rollers, and lathe attached, and the other just removed from the Abbey Colliery)
Large quantity of cast-iron PUMPS, from 2½ to 15 inches bore, with clack-door, bucket, and matching pieces.
Foundry and blacksmiths' fans, bellows, anvils, vices, screw-plates, taps and dies, moulds, tools, of all descriptions, and other requisites, trucks, wheelbarrows.
Near FIFTY IRON and WOOD COAL WAGGONS, with iron wheels.
Large quantities of Stourbridge and Buckley fire-bricks.
THREE large WEIGHING MACHINES, and several small patent scales.
Valuable turret clock, small tell-tale clock, new and old bar and angle iron, fire-bars, pulleys, nuts, screws, bolts, washers, rivets, scrap and sheet iron, large ladles and cauldrons, very large size gas metre, piping and burners, and other miscellaneous effects,

Which will be submitted to PUBLIC AUCTION, by Messrs. CHURTON, about the latter end of the month of June, upon the premises, at GREENFIELD, one mile from Holywell, four from Flint, and 14 from Chester and Rhyddlan.

Full particulars of the whole, and the time of sale, will shortly be published; and in the meantime the auctioneers will afford any further information.

The vendors are willing to TREAT for the SALE of the WORKS, BY PRIVATE CONTRACT.—Chester, June 1, 1847. 2

ON SALE—COLLIERIES, near BISHOP AUCKLAND, in the county of DURHAM.—TO BE SOLD BY PRIVATE CONTRACT, the UNEXPIRED TERM, held by the present lessees, in the GORDON and EVENWOOD COLLIERIES. The above collieries are now in work, and are so situated as to command a considerable export, as well as land sale, trade. These advantages will be materially increased by the formation of the Auckland Branch of the York and Newcastle Railway, and the new railways leading to the south and west—for all of which Acts are obtained. By the first, great facilities will be obtained for shipments on the Tyne and Wear.

For further particulars apply to Mr. Brogden, Stockton-on-Tees. 3

SPARE MINE MATERIALS (lying at Hallenbeagle Mine, Blackwater) FOR SALE, BY PRIVATE CONTRACT; an excellent BOILER, of 36 feet long, with manhole, branch, fire doors, and bars, complete—weighing altogether about 12 tons. Also, TWO good TUBES, of 26 feet long, by 20 inches diameter, weighing about 2 tons—each admirably calculated for driers.

For prices, and further particulars, application may be made to Capt. Carthew, at Hewas Consols Mine, near St. Austell; or to Richard Pearce, Penzance. 4

Dated June 8, 1847.

TO BE SOLD, an excellent double-power BLAST-ENGINE, on Boulton and Watt's principle (36-horse power), fully capable to blow a furnace, and spare blast for a refinery or cupolas. It is in perfect repair, and only to be disposed of in consequence of a larger being required for additional blast.

Applications to be made to Mr. Thomas Rollinson, or Mr. Mark Rollinson, engineers, both of Brierley-hill, Staffordshire. 5

TO BE SOLD, BY PRIVATE CONTRACT, at GODOLPHIN MINES, ONE 36-inch PUMPING-ENGINE, 6 feet stroke, equal beam, boiler, 8 tons, balance-bob, and first piece of rod.

ONE 24-inch STAMPING-ENGINE, 6 feet stroke, boiler, 11 tons.
ONE 24-inch WHIM-ENGINE, 6 feet stroke, boiler, 4 tons, and cage.
ONE 18-inch WHIM-ENGINE, 4 feet stroke, boiler, 7 tons, and cage.
SIX TUBULAR BOILERS, 11 tons each.
A large IRON BALANCE-BOB, 12 tons.

Application to be made to Capt. R. Williams, on the mines.

Dated Godolphin Mines, Helston, Cornwall, May 27, 1847. 6

STEAM-ENGINES AND OTHER MINE MATERIALS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at TRETOIL MINE, near BODMIN, Cornwall, the undermentioned

MINE MATERIALS—viz.:

1 66-inch cylinder STEAM PUMPING-ENGINE, with two boilers, about 20 tons, complete
1 Other boiler, about 12 tons
1 21-inch cylinder STEAM PUMPING-ENGINE, without boiler
44 17-inch pumps, 9 feet long
2 17-inch plunger poles, to go 7 feet stroke
2 16-inch cases for ditto
2 Stuffing-boxes for ditto
2 Windbores, ditto
2 H-pieces and doors 2 Door-pieces, ditto
5 12-inch pumps, 9 feet long
1 11¼-inch door-piece
6 11¼-inch pumps, 9 feet long
1 10¾-inch working barrel 1 10-inch ditto ditto
1 11¼-inch windbore 4 9-inch pumps, 9 feet long
1 6-inch windbore
1 13-inch plunger-pole, 9 feet long, stocked complete
1 13-inch case, with stuffing-box attached, complete
1 6-inch plunger-pole, 8 feet long, stocked 1 6-inch ditto ditto
1 6-inch H-piece and door of ditto, door-piece, &c.
1 6-inch case and stuffing-box, complete 1 6-inch ditto windbore
A grinder, and 16-feet water-wheel, complete, with stamps and frames
A large balance-bob, with queen post, gudgeon, plever blocks, strapping plates, holding-down bolts, &c.
Other smaller balance-bobs
A large capstan, with oak axle Other smaller capstans
A shears, 60-feet high Another smaller shears
130 Fathoms 13-inch capstan rope, nearly new
130 Fathoms 13-inch capstan rope
Whims Whim ropes
16 Strapping plates of hammered iron, for main-rods
18 ditto doubled rolled, for ditto
Main rods, staples and glands, rod bolts
Strapping plates Flat-rod pulleys
Railroad iron, tram waggons, air pipes, ladders
Much useful mine timber, old pumps, and various other things

The pitwork, and much of the other materials are nearly new, and in good condition.

Apply to Mr. Henry Thomas, 8, George-yard, Lombard-street, London; Mr. George Geach, Bodmin; or to Capt. Henry Williams, at the mine.—Dated June 8, 1847. 7

TO BE LET, the PARK-HILL MINES, DEAN FOREST, GLOUCESTERSHIRE—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS of rich IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire. 8

TO CAPITALISTS, ENGINEERS, AND OTHERS.—The PROJECTOR and SOLE PROPRIETOR of a PATENT, of immense importance for PUBLIC WORKS, is desirous of DISPOSING of a PORTION of his INTEREST therein. It is already adopted by the first authorities, both public and private: about £5000 will be required. If the purchaser can himself manage the financial affairs of the patent, it will be an advantage, as the patentee is required to establish his process in a foreign country.—Particulars may be had on application to Messrs. White, Broughton, and White, 12, Great Marlborough-street, London. 9

IRONSTONE AND COAL.—TO BE LET, ON LEASE, the WORKING of the IRONSTONE and COAL on the BRENCKBURN ESTATE, in NORTHUMBERLAND. There is an abundance of LIMESTONE, FREESTONE, and CLAY.—For particulars apply to Messrs. Druce and Sons, solicitors, 10, Billiter-square, London, where samples and analyses may be seen. 10

VENTILATION OF COAL MINES.

BIRAM'S ANEMOMETER, FOR ASCERTAINING THE VENTILATION OF COAL MINES.—This INSTRUMENT is now EMPLOYED by many EMINENT ENGINEERS, to whom reference can be given.

For particulars apply to the patentee, B. Biram, Esq., Wentworth, near Rotherham; or to the maker, John Davis, Derby, manufacturer of Miner's Dials, Pit Barometers, and Safety Lamps. 11

STRONG MIXING PIG-IRON.—The YSTALYFERA IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:—

"It greatly exceeds, in *strength*, in *defective* powers, and capacity to resist *impact*, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness*, or *elasticity*, which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and, in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel*."

Address THE YSTALYFERA IRON COMPANY, 12

Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS.
DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath. 13

Dated June 22, 1847.

TO MINE AND COLLIERY PROPRIETORS, SLATE QUARRY OWNERS, RAILWAY CONTRACTORS, IRONMONGERS, DEALERS IN GUNPOWDER, AND OTHERS.

MESSRS. JOHN HALL & SON, the PATENTEES AND SOLE MANUFACTURERS OF
SCHÖNBEIN'S PATENT GUN-COTTON,

Respectfully state, that they are now prepared to SUPPLY the PATENT GUN-COTTON (compressed for the convenience of carriage), in round and square paper cases, of 4 ozs. each, packed in boxes, containing 50 and 100 cases each, at the price of 3s. per lb., for ready money.

Also, in tubes or cartridges of... 1, 1¼, 1½, and 1¾-inch diameter;
Containing..... 2, 4, 6, and 8 ounces each, at the
Additional charge of ..... 1, 1½, 2, and 2½ pence, each tube or cartridge. 14

For blasting in slate quarries, paper tubes will be supplied, 3 ft. in length, containing 1 oz. of the Patent Gun-Cotton per foot.

4 Ounces of Gun-Cotton } equal in power to { 24 Ounces of Blasting Gunpowder.

As proved in mortars, similar to those used by the Board of Ordnance, for the proof of gunpowder.

OFFICE—23, LOMBARD-STREET, LONDON.

TO RAILWAY AND ELECTRIC TELEGRAPH COMPANIES.
BY HER MAJESTY'S ROYAL LETTERS PATENT.

REID'S PATENT PREPARED WIRE FOR ELECTRIC TELEGRAPHS, WIRE ROPE, AND FENCING. 15

The ADVANTAGES attending this WIRE are—

1. That it may be had of any length.—2. That it is of uniform size, and, when annealed, is of one uniform degree of softness.—3. That it is prepared for being galvanised by a process which leaves it wholly uninjured.

Hitherto it has been the practice, in cleaning wire to prepare it for the galvanising process, to immerse it in sulphuric, or nitric, acid, by means of which the wire has been much injured in its structure, from the acid not acting equally on all parts alike. By the new process this evil is entirely obviated, and the zinc coating is found to be more perfect.

For further particulars apply to the patentee, at 26, University-street, London, where specimens may be seen, and all orders will receive immediate attention.

CONTRACTS entered into and executed with promptitude.

IMPORTANT TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

Messrs. W. & C. MATHER beg to call the attention of the ABOVE PARTIES to their IMPROVED PATENT ELASTIC METALLIC PISTONS. 16

The PRINCIPAL FEATURE and ADVANTAGE of THIS IMPROVEMENT is

1. Its great ELASTICITY and SELF-ADJUSTING PROPERTIES, which enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction.

2. Its extreme SIMPLICITY and LIGHTNESS, consisting of only two pieces of metal, having the vertical and lateral pressure in due and proper proportion, independent of each other.

3. It takes the LEAST possible SPACE, and is well adapted for air and water-pumps, as it allows of a larger water way.

Messrs. W. & C. MATHER feel confident that it is the BEST ELASTIC METALLIC PACKING yet known, for the above reasons.

Models may be seen at the Salford Iron-Works, Manchester; at W. Barker's, engineer, Newton-Moor; and also at J. Mather's, engineer, Beaufort-street, Chelsea, London.

ELECTRIC TELEGRAPHS.—As INVENTORS and PATENTEES of the ELECTRO-TELEGRAPHIC CONVERSER, the principle of which is far more SIMPLE, CERTAIN, and PERFECT, than that of ANY of the TELEGRAPHS at present known to the world, we cannot but deplore the necessity for still keeping secret the details of the various improvements comprised in our patents, because we are confident, that, when once they are made public, their advantages will be so manifest, as to sink the best of its predecessors into comparative insignificance. 17

When we assert that our instrument is not subject to derangement from atmospheric influences—that it is perfectly free from vibration, and that its power is unlimited—which we shall be able to demonstrate by its application to *a thousand miles of wire*, through a greater number of instruments than can be used under any existing system—we hope that we have said sufficient to induce all concerned to await the enrolment of our specification, which must take place early in August.

We avail ourselves of this opportunity of disclaiming all connection with any Printing Telegraph.—140, Holborn-bars. BRETT & LITTLE.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS. 18
W. BROTHERTON AND CO.'S
PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by these, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil

STEAM TO INDIA VIA EGYPT, MALTA, ITALY, ALEXANDRIA, AND THE PENINSULAR PORTS. 19
PASSAGE TO BOMBAY, MADRAS, AND CALCUTTA.

The Peninsular and Oriental Steam Navigation Company BOOK PASSENGERS for CEYLON, MADRAS, and CALCUTTA direct, by steamers leaving Southampton on the 20th, and for Alexandria, *en route* to Bombay, on the 1st of every month.

A steamer from Southampton leaves the 1st and 20th of every month for Malta, whence are steamers to Naples, Genoa, Civeta Vecchia, three times a month.

STEAM TO CORUNNA, OPORTO, VIGO, LISBON, CADIZ, AND GIBRALTAR.

A steamer leaves Southampton on the 7th, 17th, and 27th of every month.

Apply at the Peninsular and Oriental Steam Navigation Company's offices, 51, St. Mary Axe, London, where only passages can be secured throughout.

STEAM COAL—WITHOUT SMOKE, as per experiments made at her Majesty's Dockyard, Woolwich.
CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.) 20
OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharfat Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 19, 1846.

SMITH AND ENGLISH (LATE ANDREW SMITH), PRINCES-STREET, LEICESTER-SQUARE, LONDON, 21
ENGINEERS, MACHINISTS, IRON AND BRASS FOUNDERS, &c.,
PATENTEES and MANUFACTURERS of Improved Steam-engines, Rapid Steam Generators, Railway Wheels, Rails and Chairs, Propellers for Canal and River Navigation.
ROPE-MAKING, FLAX-DRESSING, AND OTHER MACHINERY.
Raising and Lowering Machines, Wharf, Warehouse, and Truck Cranes, Tramway, Traversing and Stationary Purchase Crabs, Tackle, &c.—Also, Steam-engines and Boilers, of various constructions; Bone, Sugar, and Mill Work, and Machinery of every description manufactured and repaired; Saw-mills, Breweries, and Factories attended.
Planing, Boring, Turning, Screw-cutting, &c.

MUTUAL CO-OPERATION.—Parties connected with a highly respectable undertaking, guaranteeing 5 per cent., will be willing to to ASSIST, to a limited extent, the PROMOTERS of any good MINING or OTHER CONCERN, by joining the respective influence of each for the equal extension and benefit of both.—Letters (pre-paid), with names, address, object of undertaking, aid, &c., expected—which will be held strictly confidential—to be addressed "C. C.," No. 48, Cheapside, London. 22

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 23

MR. R. TREDINNICK, MINING AGENT AND DEALER IN EVERY DESCRIPTION OF SHARES.
THREE KING'S COURT, LOMBARD-STREET, LONDON. 24

THOMAS P. THOMAS, MINE AGENT, AND DEALER IN RAILWAY AND OTHER SHARES.
16, *THREADNEEDLE-STREET, LONDON.*
BUYER in Wheal Trelawny and Wheal Mary Ann, at fair market prices. 25

MINING OFFICES, 1, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

WATSON AND CUELL, MINE AGENTS.—N.B.—STATISTICAL INFORMATION furnished (on application) to SHAREHOLDERS in MINES in Cornwall, Devon, Scotland, Ireland, Wales, and Spain. 26

WILLIAM H. SMITH, MINING SHARE AGENT, 10, *WARNFORD-COURT, THROGMORTON-STREET, LONDON.* 27

JONATHAN DAVEY, MINE AGENT, SURVEYOR, AND SHAREBROKER.
MATTHEW-STREET, TAVISTOCK. 28
Mines surveyed, inspected, and reported on, at the shortest notice; plans, sections, and dialling performed, by day or contract.

MESSRS. WINSTANLY AND CO., SHAREBROKERS, inform their friends and the public, they BUY and SELL every description of RAILWAY SHARES, on the most advantageous terms; they also make advances upon the deposit of scrip and shares for periods as may be agreed. 29
6, Bank Chambers, City.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.* 30

BRITISH MINING OFFICES, 41, MOORGATE-STREET, LONDON.—PROSPECTUSES may be had, and ORIGINAL SHARES ALLOTTED in the COPPER and SILVER-LEAD MINES connected with these offices, on application to the secretary, THOS. HENRY TAUNTON. 31

MINING ADVENTURERS' SUBSCRIPTION ROOM, ORIGINAL REGISTRY OFFICE FOR THE SALE AND PURCHASE OF MINING SHARES.
CROSSMAN, SOMMERS, AND CO., AGENTS,
28, *THREADNEEDLE-STREET LONDON.*

SHARES FOR DISPOSAL. 32

Great Wheal Frederick Tin Mine	Wheal Mary and Elizabeth
Devon and Courtenay Consols	Coombe Mine
North Eastern Mining Co. of Ireland	Wheal Rose
South Wheal Maria	Pennant Mining Company
Wheal Susan	New East Crowndale
Holmbush	East Wheal Rough Tor
Wheal Rose Consols	Grambler and St. Aubyn
Bedford United Mines	North Wheal Robert
Alfred Consols	Great Wheal Rough Tor

CURRENCY CREEK SPECIAL SURVEY.—The PROPRIETORS of LAND GRANTS in this SURVEY are requested to MEET at the London Tavern, Bishopsgate-street, on Monday, the 5th July, at Three o'clock precisely, to receive the report of the committee appointed at the general meeting, 31st May last.
19, South-street, Finsbury, June 24, 1847. HANANEL DE CASTRO, Chairman. 33

CALLINGTON MINES COMPANY.—A DIVIDEND (being the fifth) of ONE POUND per share will be PAYABLE here on Wednesday, the 23d inst., and following Wednesdays, between the hours of Twelve and Three o'clock.
44, Finsbury-square, June 9, 1847. 34

CALLINGTON MINES COMPANY.—RESOLUTIONS passed at the General Meeting of shareholders, held on the 23d June, 1847.

Resolved,—That the reports and accounts, now read, be received, adopted, and entered in the cost and transfer book.—Carried unanimously. 35

Resolved,—That the thanks of the shareholders be presented by this meeting to the chairman and directors, for their judicious, careful, and able management of the company's affairs.—Carried unanimously. RICHARD HODGSON, Chairman.

LEWIS MINES COMPANY.—RESOLUTIONS passed at the General Meeting of shareholders, held on the 23d June, 1847. 36

Resolved,—That the reports and accounts, now read, be received, adopted, and entered in the cost and transfer book.—Carried unanimously.

Resolved,—That the thanks of the shareholders be presented by this meeting to the chairman and directors, for their judicious, careful, and able management of the company's affairs.—Carried unanimously. RICHARD HODGSON, Chairman.

NORTH TREBURGET MINE, ST. TEATH, CORNWALL.—In pursuance of a resolution, passed at a meeting of the adventurers in the above-named mine, held in London, on Wednesday, the 23d day of June inst., all PERSONS having CLAIMS AGAINST the MINE are requested to send the particulars thereof to Messrs. Dean, Leeks, Dixon, and Redpath, solicitors, 15, Swithin's-lane, London, in order that the same may be examined and settled.—And all persons are hereby requested to take Notice, that the late manager of the mine, Capt. JOHN VIVIAN, having been DISCHARGED from his office, has no authority to incur any debts, or enter into any contracts, or other engagements, on account of the adventurers. 37
15, Swithin's-lane, London, June 23, 1847.

PATENT GALVANISED IRON COMPANY.—Notice is hereby given, that, in pursuance of a resolution of two special general meetings of this company, held on the 13th and 20th of April last, a CALL of ONE POUND per share (being the sixth) on the new capital of the company, will become PAYABLE at Messrs. Prescott, Grote, and Co.'s, 62, Threadneedle-street, on Thursday, the 1st of July next.—Holders of shares in the said new capital are requested to pay the same accordingly. S. VINCENT, Secretary. 38

ROYAL SANTIAGO MINING COMPANY.—The directors hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the office of the company on Wednesday, the 14th of July next, at One o'clock precisely, when the directors will make their report.
38, Broad-street-buildings, June 26, 1847. 39

TRELEIGH CONSOLIDATED MINING COMPANY.—The directors hereby give Notice, that a MEETING of the shareholders will be HELD at the office on Monday, the 5th of July next, at One o'clock precisely, when the accounts for three months, ending the 30th of June, will be laid before them.
57, Old Broad-street, June 14, 1847. WM. NICHOLSON, Secretary. 40

WHEAL CONCORD.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders and adventurers in this mine will be HELD at the Account-house on the mine, situate in the parish of South Sydenham, in the county of Devon, on Monday, the 5th day of July next, at Twelve o'clock at noon, for the purpose of taking into consideration the propriety of selling the present adventurers' interest in the mine and materials—for adopting some measures for discharging their present liabilities—and on general and important business.
Callington, June 24, 1847. G. W. SNELL, Purser. 41

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,
23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,* 42
to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to the usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall. 43

NORTH WALES COPPER, LEAD [illegible] GOLD MINING COMPANY.

SIR,—I have looked through your co[illegible]me sort of a reply or notice of the letter of your "Theoretical Novice," [illegible] some three weeks since, but without avail. Whether Capt. Absalom F[illegible]ox" adjunctive—saving at all times the "ores" in perspective or prospective, or whatever ye do call it—think it prudent to be silent, I know not; but, with ascertained boldly made, it does appear to me just like as if that no man would sit quietly down and allow such a charge to be made, and then to let it remain uncontradicted—while as to Capt. Absalom Francis (for I must call him by that sort of calling, as I know many of that name in our mines out here), I cannot account why he should not at once come out, and acknowledge the truth of what is put forth, or at once say that it is altogether wrong. I do think that "A Theoretical Novice" may even be a practical man, and so, perhaps, least said the better—however, that is not my business; and if he do adopt prudent counsel, to be most wise; for he who says nothing, cannot be said to commit himself wittingly. Mr. Editor, it certainly do appear to me that at the present moment there are too many of these new Cost-book Principle (?) folks coming forward; and, with all their notions and ideas of past times—*pastimes* it may be for they—I cannot but think that the notion of getting gold from the surface before they do get copper from underground, is rather paramount and premature, as they do say down along west with us; but, then, p'raps you'll say that's their business—well, so it may; and, as they won't have any of my money in their embarkations, why, in course, I have no right to say nothing; but, at the same time, I just wish to say a word about this North-Welsh concern, and I hope I be not too bold in saying so much.

Now, it do appear to me, and to my "comrades," that these gentlemen directors of yours in London they be got a great opinion of the value of the mine—and I dare say they do be right, for I be bound they have got a great parcel of the shares themselves—and do lay out their money as you gentlemen (what you call out-adventurers) do, without thinking of putting any in your pockets; but 'taint so with we—perhaps you know that. We likes a pretty sampling, and perhaps so do you, only different sort, as we generally do look after the copper—while, I am told, you have a greater fancy for the *tin*. Now, your correspondent—and it aint because he can make use of finer words more than we, that I can't write a long letter; for, if you will only give me space, I will give you one for your full broad sheets that will take up, I should think, nearly one-half—but, then, that aint what I am writing about now. What I mean to say is just this:—"A Theoretical Novice" says, that it will take 16 or 18 years to drive a level to take a lode which is gone west, or missing. This is a very foolish idea; and he can't know much about mining, or else why not sink 10 or 12 shafts, as we do call them here, although you gentlemen in London do laugh at us, for, you do say that in Staffordshire a *stack* is what we do call a *shaft*?

Now, in times like these, we should like to have a good stack of barley, or some such sort; but, then, they do say, that a shaft mean an engine chimney, as you may call it, which I do contend for is wrong altogether; and then your machinery men call a shaft a piece of iron, put in a horizontal position, while all our shafts are perpendicular going downwards, but I find I am getting away from the "level" in which I was working, and so will return to my "pitch."

Now, Mr. Editor, if you were to sink 12 shafts on each of the Clogan and Vigra Mines, which, as you know, would be 24, let us just suppose, that three cores were employed, and three men to each; this would only be nine men in the 24 hours, and which, if you multiply by 24, would make 216; and allowing 24 men as surface labourers, and 10 agents, would make the entire compliment 250. Now, putting the miners at 3*l.* 10*s.* a month, which I don't think too much, it would be 540*l.*; 24 men at surface, suppose we say 48*s.*, that would be 57*l.* 12*s.*; and then the agents, 10 at 12*l.* 12*s.* a month, would be 126*l.* It is true, that we have to add the cost for timber, powder, candles, safety fuse, smithy, and the machinery required, whether steam or water-power: but this I pass over unnoticed, as I believe that this will be inconsiderable, compared with other items. I should not, however, I must say, omit the management in London; but as this will, doubtless, be inefficient and unprofitable, I suppose no charge will be made for it, more especially as the costs will be heavy enough on the mines. Now, putting these charges together, it will be seen, that they do not amount to more than 723*l.* 12*s.* per month, or, taking the four weeks' month, to a total, for the year, of more than 8683*l.* 4*s.* 7*d.*, of course, exclusive of postages, and other little *et ceteras*.

Now, Mr. Editor, see what can be done for this. I will just suppose they can sink the ground for 12*l.* a fathom—although I think it may be done for 10*l.* with strict economy—and I will consider that the average depth of the 24 shafts shall be 40 fms., or, as your correspondent likes feet, say 240 ft.; because I do reckon they begin at nothing, and at the further end they will be 80 fms. deep, although they may go down to *nothing*. However, that's aint my business. Now, if you will calculate along with me, you will find that they will be able to sink about 3 fms. a month, which will enable them, in about 30 months, to get down the deepest shaft, which would, according to my figures, be 21,718*l.* 1*s.* 3½*d.*; but being no mathematician, I will not be answerable for the correctness of my figures. I certainly have not taken into consideration the distances to be driven between the several shafts; but as this is, I believe, said to be only 7620 ft., or 1270 fms., any of your readers can readily do so—besides, if there be no lode, there will be no occasion to drive, and so that money would be saved. I am afraid I have already taken up too much of your space—that is, of course, supposing my letter goes in, which, I expect, from the importance of the matter, as connected with practical mining, in opposition to the opinions of "A Theoretical Novice" will be the case. However, more in my next.—A PRACTICAL MINER, BUT NO CAPTEN: *Lower Town, Gwennap, June* 21.

ELECTRO-TELEGRAPHIC COMMUNICATION.—The highly-interesting lectures of Dr. Bachhoffner, on the application of electricity to telegraphic purposes, recently given at the Royal Polytechnic Institution, have led to the introduction of a series of working models of Cooke and Wheatstone's Electric Telegraph, and the Electro-Magnetic Clocks of Mr. Bain, the property of the Electric Telegraph Company; and, as these are used and exhibited by two assistants of the company, who attend daily for that purpose, the working of these extraordinary and valuable applications is thus practically laid before the public—more particularly as the simple, yet lucid, illustrations of Dr. Bachhoffner must be still in the recollection of visitors to this institution.

LEMONNIER, HAIR-WORKER to the Queen, and Member of the Academie de l'Industrie, and who obtained a Silver and Platina Medal at the Exhibition, has just INVENTED several NEW DESIGNS, as Palm Trees, Wreaths, Knots, and Cyphers, which he executes with hair in its natural state, without using gum or other cement. A variety of Trees executed by a mechanical process.

No. 13, *RUE DU COQ SAINT HONORE. PARIS.* 45

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Published by the authors, and may be had at their residence; sold also by Strange, 21, Paternoster-row; Hannay, 63, Oxford-street; Mann, 39, Cornhill, London; A. Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Campbell, 146, Argyle-street, Glasgow; Robinson, 11, Greenside-street, Edinburgh; and, in a sealed envelope, by all booksellers.—Messrs. Curtis and Co. are to be consulted daily at their residence, No. 7, Frith-street, Soho-square, London; and patients can have this work privately forwarded them, by initial or otherwise, to any part of the United Kingdom, direct from the authors' residence; or from any of the above agents, on remitting 2*s.* 6*d.* in postage stamps.

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REVIEWS OF THE WORK.

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Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

Society.	*Address.*	*Day.*	*Hour.*
Royal Botanic	Inner Circle, Regent's-park ..	Saturday.....	3½ P.M.
Western Scientific Institut.	Leicester-square	Monday.....	7½ P.M.
British Architects.....	16, Grosvenor-street	Monday.....	8 P.M.
Civil Engineers	25, Great George-street	Tuesday.....	8 P.M.

INSTITUTION OF CIVIL ENGINEERS.

JUNE 22.—Sir JOHN RENNIE (President) in the chair.

The paper read was by Mr. Joseph Glynn, M. Inst. C. E., giving "An account of the Plans that have been Proposed for Connecting the Atlantic and Pacific Oceans by a Navigable Canal." The author took a review of these projects from the time of Cortez, who proposed to cross the Isthmus of Tehuantepec by joining the waters of the River Coatzoccoalcos, which flows into the Gulf of Mexico, with those of the River Chicapa flowing into the Pacific, by the Bay of Tehuantepec; a plan which has lately been revived by Don José de Garay, who, with the assistance of Signor Moro, surveyed the country from sea to sea, and showed that the chain of mountain is there broken for about 35 miles, giving place to an elevated plain or table land, called the Mesa de Tarifa, where both these rivers originate, and where their junction would be easily effected. The objections to this plan are the length of the river navigation, about 200 miles, and the ascent of the stream to the Mesa de Tarifa, about 200 metres, or 656 feet above the ocean. The survey was made under the patronage of the Mexican President, General Santa Anna, who professed to grant many important privileges to the promoters. The Isthmus of Nicaragua was next examined, and after that the course of the River St. John to the lake, which is a little more than 15 miles distant from the Pacific Ocean, and about 130 feet above its level. The distances and the levels were accurately taken by Mr. Bailey, an officer in the Royal Marines, by desire of General Marazen, President of the Central American Republic. The ridge of hills intervening between the lake and the ocean, and the uncertainty of the waters in the River St. John, alternately swollen by the rains, or dried up by the heat of a tropical sun, the volcanic character of the country, and the unhealthy nature of the climate on this river, from which Lord Nelson's expedition suffered so much, render the execution of such an undertaking at this place very improbable. The Isthmus of Panama presents fewer obstacles than any other point—the distance from sea to sea is only about 39 miles—and the country is traversed for nearly the whole width by the great river of Chagres and its tributaries, which are interlaced, as it were, with the streams flowing to the Pacific. The chain of mountains here sinks into extensive savannahs and forests, with a few detached and isolated hills, and small elevations, seldom exceeding 500 feet in height. The country was surveyed in 1828, at the instance of General Bolivar, by Mr. Lloyd, an English officer, who also took the levels, and determined the difference between the two oceans to be 3¼ ft. (3·59), the waters of the Pacific being the highest. Mr. Lloyd's valuable papers, deposited with the Royal Society, and the Royal Geographical Society, were exhibited to illustrate the paper. A survey of the River Chagres was also made by order of the Admiralty, during which Capt. Foster, of her Majesty's ship *Chanticleer*, lost his life. The maps, plans, sections, and other valuable information deposited with these societies, seem to have created but little interest in England; but they have been diligently examined, and extracts and copies taken by foreigners, who have had free access to them, especially by the French; and M. Guizot, lately sent M. Napoleon Garella, as engineer-in-chief, with a numerous staff of assistants, to make a further survey, and ascertain the practicability of making a canal. This survey has fully confirmed that of Mr. Lloyd, and proves that there are no obstacles which engineers and contractors of the present day could not encounter and overcome without much difficulty or expense; the difficulties being more of a political character, and to be dealt with by statesmen, rather than by engineers. The meeting was very fully attended, and an interesting discussion ensued, in which his Royal Highness Prince Louis Napoleon took an active part. He had evidently studied the subject carefully on the spot, and traced a line between the lakes Nicaragua and Leon, which he recommended as preferable on account of the local facilities, the salubrity of the climate, the already populated character of the country, and the advantages of the two lakes, which, at small expense, may be converted into harbours accessible at all times for vessels of heavy tonnage. The plans proposed by his Royal Highness appeared to meet the views of the meeting, as far as a ship canal was concerned; but it was agreed that for quick transit by railway, the lines traced by Mr. Lloyd over the Isthmus of Panama were to be preferred.

The papers to be read at the last meeting of the session, June 29, were—"Description of Highton's Safety Railway Chair," by E. Highton, Assoc. Inst. C. E.; On the Proportion of Steam-Power for Ocean Navigation," by A. Henderson, Assoc. Inst. C. E.; "On Fire-proof Buildings," by J. Braidwood, Assoc. Inst. C. E.; "On Defries's Improved Dry Gas Meter," by J. Defries.

WESTERN LITERARY AND SCIENTIFIC INSTITUTION, LEICESTER-SQUARE.—A public dinner in aid of this valuable institution took place on Monday evening, at the Freemasons' Tavern. About 150 gentlemen assembled on the occasion, amongst whom were Messrs. J. S. Buckingham, Albert Smith, Luke J. Hansard, Henry Drummond (president of the Institution), &c.—The Right Hon. Lord KINNAIRD presided.—The noble CHAIRMAN, after giving the usual loyal toast, proposed "Prosperity to the Western Literary and Scientific Institution," and in doing so briefly detailed its history and objects, from which it appeared that it was intended to be an evening resort for young men engaged in mercantile pursuits. The institution had been productive of much good, but the noble chairman regretted that the assistance it received, was not so efficient as it deserved. It had need of substantial aid, and he earnestly entreated the friends of the improvement of the human mind to come forward in its support on this occasion—the toast was drunk amidst rapturous applause.—The SECRETARY returned thanks, and, in doing so, detailed the peculiar circumstances which had led to the present energetic effort to restore the institution to its original vigour: its weakness, he trusted, would be its salvation, and he confidently trusted to the exertions of their friends. The object of their institution was noble: they did not come forward so much as the relievers of human misery, but rather as the preventers of human misery (cheers).—The CHAIRMAN proposed the health of Henry Drummond, Esq. (president of the society): it was drunk with enthusiasm, and the compliment duly acknowledged by the worthy president, who did not hide his deficiencies in time past, but hoped to make up by increased exertions to further the prosperity of the institution in time to come.—Several earnest appeals to the friends of the establishment, to aid it at the present moment, were made by gentlemen present, and the utmost confidence was expressed that the present call would meet with a warm response from a large circle of the population of the metropolis.

PROGRESS OF RAILWAY TRAVELLING—CRAMPTON'S NEW EIGHT-FEET DRIVING-WHEEL NARROW GAUGE ENGINE.—This narrow gauge passenger engine, from which much has been expected, made, as we stated in last week's Journal, what may be termed its first trip on the 18th inst., from Wolverton to the Camden Town station, with an ordinary stopping train of 13 carriages, weighing about 60 tons. The result of her working, although exceedingly promising for a new engine, must not be taken as a criterion of her tractive power. The engine is necessarily stiff in all her parts, and we shall not pretend to pronounce anything like a decided opinion on her running till she has had a week's continuous labour, and works what the drivers call "sweet." It was thought that a narrow gauge engine could not be made to run with safety at high velocities with an eight-feet driving-wheel. We pointed out several months since, when describing Crampton's seven-feet driving-wheel engine, the *Namur*, that he had succeeded in securing perfect steadiness with that locomotive at high rates of speed. It will be recollected that we mentioned the fact, that by placing the driving-wheel behind the fire-box, Mr. Crampton had secured a very low centre of gravity, and that with a seven-feet driving-wheel the top of his boiler was as low, if not lower, than the generality of engines with 5 ft. 6 in. driving-wheels. The top of the boiler of the eight-feet driving-wheel engine, which is called the *London*, is about 7 ft. 6 or 8 in. We do not know the precise height, but we observed that it is several inches below the height of the driving-wheel. The *London* is a six-wheel engine, and has carrying wheels of 2 ft. 9 in. diameter; the cylinder is 18 in., and the stroke 20 in.; the heating surface is 1650 ft., with 20 ft. of fire-bars; the tender, which has also 3 ft. 9 in. wheels, holds 2300 gallons of water, which, it is thought, would, under ordinary circumstances, enable the driver to run an express train through to Birmingham without stopping. The weight of the *London* is, when road-worthy—that is, ready to start with the train—about 25 tons; and her tender, with water and coke, 20 tons. We have it on competent authority, that with the 12 carriages, or about 60 tons, seven consecutive miles were performed within seven minutes, and that one mile was run in 55 seconds, or at a rate of rather more than 65 miles per hour. It is stated that the engine was perfectly steady at this velocity. A second trial-trip with the *London* was made on Monday last, when the engine was attached to the 12 o'clock down train, from Euston-square to Wolverton, the train consisted of 11 carriages, weighing nearly 55 tons; a brisk side wind prevailed. The working of the engine on this occasion could not, as before remarked, be taken as a test of her tractive capacity, as she worked very stiff, and will not do her best for the next fortnight—indeed, her power was not put on till within a few miles of Wolverton. The time allowed for the performance of the 52½ miles to Wolverton by the train in question is 1 hour 57 minutes, with stoppages at Harrow, Boxmoor, and Leighton. The engine gained about 4 minutes in the run to Harrow; nearly 9 minutes between Harrow and Boxmoor; 13½ minutes between Boxmoor and Leighton; and could have easily gained 7 or 8 minutes from Leighton to Wolverton, but she was kept back over the first part of the distance. Just after passing the 50th mile post, the speed was reduced, and the train ran slowly into Wolverton. The engine was blowing off steam the whole of the way down, and she promises to do some very first-rate work indeed, when she gets into proper working trim. Mr. M'Connell, the locomotive superintendent of the London and North Western; Mr. Crampton, the patentee; Mr. Tulk, of the firm of Tulk and Ley (the manufacturers); and Mr. Winter, from Mr. Robert Stephenson's establishment, rode on the engine. Its perfect steadiness at the highest velocity was fully acknowledged by Mr. M'Connell and Mr. Winter. Mr. Crampton is fortunate in having had his patent so admirably carried out by the manufacturers—for a more beautifully-constructed engine, so far as regards the workmanship, has, we believe, never been put upon a railway.

STEPHENSON'S OSCILLATING ENGINES—THE BRIGHTON RAILWAY ACCIDENT.—The adjourned inquest on John Gregory, the engine-driver, who was killed by the engine running off the line, was resumed at Nutbourne, on Tuesday last. On the part of the company there were present Mr. H. Faithfull (their solicitor), Mr. Peter Clarke (the manager), and Mr. Kirtley (the locomotive superintendent.) Capt. Coddington, the Government Inspector of Railways, was also present.—RICHARD HESKETT, foreman over the enginemen, examined the engine previous to working, and considered her in a perfectly sound state, and should not have feared to have driven her three or four trips a day. The engine was working the day before; she was taken in a fortnight previous, having had a cracked wheel, and a fresh pair of wheels was put on, not new ones: considered it safe to run her 35 miles an hour: had driven her 40, and could not account for the accident: a good many of the engine-drivers had left lately. The wages have been much increased during Mr. Kirtley's management; they receive 7*s.* 6*d.* a day, and on Sundays have a day and a half if they work: had never known men put on as engine-drivers who did not know how to drive.—Mr. JOHN CANNING, of Finchdean, ironfounder, was a passenger in the train. When he got out of the train on its stopping, he saw deceased lying dead: the cause of the accident was, he thought, the breaking of one side of the coupling iron, which pulled the engine round like a horse with one rein.—CORONER: That was my impression, but Peel, the driver, who was examined the other day, stated that such would not be the effect of the breakage of the coupling iron, as there were chains on each side.—Examined by Mr. SHERWOOD: The part of the iron that was broken was sound: I dare say you have heard of bad lawyers: we have also bad ironmasters, and they don't care what iron they send us: some of the iron in this engine was bad.—CORONER: Would the company be blameable for that? *No.*—Capt. CODDINGTON said, he had seen the engine; the parts were all good, and there was no default in any part of it, except the flanges of one of the wheels—the consequence, and not the cause, of the accident: there was a crack in the hind wheel, and a rim had been put round it so as to render it safe.—CORONER: Do you know anything of the construction of this particular class of engine? The construction of it renders it more elastic on the road: they "oscillate" more.—Can you tell us the cause? There is more overhanging weight at the extremities.—Are those engines used on all railways? I know of them on several railways in the north of England, and on the Eastern Counties, and the Dover.—Can you account for it running off the line in that way? I have not been able to make an inspection of the road as to enable me to account for it: it is a straight road, nearly a level: I did not inspect the line previous to its being opened, that was done by Capt. Simmonds: I had merely seen it a few minutes before I came here to day.—You have heard the accident described, do you attribute it to the construction of the engine? I don't think the construction of the engine alone would do it: I think there must be some other cause, but as yet I have not been able to find it.—Can you account for it in any way: it is possible there may have been a defect in the road? I have stated that these engines are liable to more oscillation than others, and if there was a defect in the road, an unpacked sleeper, or anything of that kind, that would give the opposite side of the engine a tendency to throw over, and this particular kind of engine being more liable to oscillate than others, they would be more liable to go off the line than others; I am now speaking theoretically, and what I am stating is, perhaps, hardly worth the name of evidence, but is mere conjecture. I do not think the accident was caused by the breaking of one of the coupling chains. [The witness explained that the traction would still be from the centre.]—With one of Stephenson's oscillating engines, would you not require a more experienced driver than with any other engine? The oscillation is, to a considerable extent, only when they are going at a high rate of speed: the driving of an engine requires great care and attention.—More with these engines than with others? I am not prepared to say that: I do not think that 35 miles an hour would be unsafe, unless there was some defect in the road.—By Mr. POWELL: Are you aware of any advantages of this class of engine which counterbalance the disadvantage you have named? I am not: it was the first attempt, I believe, at the construction of outside cylinders, and the advantages expected have not been derived: up to a certain degree of speed, say 30 or 35 miles an hour, I think them as safe as any other engines.—Mr. JOHN WINTER, superintendent of Stephenson's engines, deposed: I saw engine No. 40 at the spot where the accident took place: the body was raised up, the wheels off, and all the machinery of the engine, with the exception of the springs, the cylinder, and motion: I examined the springs, and found that they were not the same as when the engine was delivered to the company: I did not see her before she was delivered to the company, but the springs were not such as are used in Stephenson's engines: the springs had been shortened 12 inches: the centre springs were the same length as originally: this alteration would cause the engine to be more rigid, and cause a jumping: I have seen the drawing of this very engine: the front and hind springs were 3 ft. 6 in.: the leading and hind springs being shortened, would make the engine feel a bad road more. Mr. Kirtley did not shorten the springs, but it was done by his predecessor, Mr. Gray, and Mr. Kirtley considered it an error; he did it to steady the engine, but it had a different result: I think there is another engine which has been shortened in the same way, and Mr. Kirtley is getting the springs lengthened at the present time: I do not think that the springs had anything to do with this accident: we have some of this kind of engine running at the present time on the North Western line with the express trains, the average speed of which is 40 to 50 miles an hour, but they have our own springs. Yesterday I was on one of them, which attained a speed of 55 miles an hour, and I have been on one which attained a speed of 75 miles an hour: I examined this engine; she was in good repair, but had been working some months; the only thing amiss that I saw, was a little lateral play on the leading axle-box.—The inquest was then further adjourned until Tuesday, Aug. 3.

IMPORTANT EXPERIMENT ON IRON VESSELS AT PORTSMOUTH.—One of the greatest objections to iron vessels has been the tendency of the material of which they are composed to accumulate, to an extraordinary extent, under water, a vast collection of weeds, barnacles, and all other submarine crustacea. During the last 10 years various chemical preparations have been applied to obviate this well founded objection, but, unfortunately, with signal failure, or such partial success that the advantages of the application of them have not been worth the trouble of the experiment, until at length it appeared to be a settled understanding that the common red lead next to the naked iron itself was the most judicious application. It could not, however, be supposed that in a country like this, so eminent for theoretical as well as for practical science in chemistry, as in other arts and sciences, that all attempts to remedy the serious defects complained of, should be abandoned in blank despair; and, accordingly, not a few interested in the preservation and success of iron vessels devoted their best hours of leisure to the task of discovery and experiment. Patents innumerable have been applied for and granted—Mr. Pilcher, of Rotherhithe; Mr. Green, a chemist; Messrs. Naismyth and Jeffery; Baron Whittenstel, the chemical referee and lecturer to Portsmouth Dockyard, and others, have each introduced compositions under the most successful auspices, during the last two years, but with unsatisfactory results, inasmuch as their success was temporary; and, it was not until the great increase of iron vessels in her Majesty's service, increased the necessity of some covering for the iron to prevent the evils to which they are subject, and liberal offers made by iron shipbuilders, and encouragement by the Admiralty and their commanders-in-chief, that anything approaching to a perfect chemical compound has been discovered. We have before noticed various applications of metallic compositions at Portsmouth, to the Queen's yacht tender, the *Fairy*, the *Rocket*, and other steam-vessels. In September last, compositions, suggested by three different experimentalists, were applied to the former vessel, when the success of one of them, prepared by Mr. Hay, was considered, on examination in January last by a committee, to be such as to justify a more extensive and direct trial of its qualities. Accordingly, to the same vessel it was again applied, but a strong practical opinion having been expressed by many experienced men who had a great deal to do with iron boats, in favour of red lead, it was determined, as a fair test of the respective merits of the two compounds, to apply to the *Undine* steam-vessel, Mr. Hay's preparation on one side, and the common red lead on the other. Great interest was felt in the result of this experiment, than which none could be fairer, or better adapted to satisfy conflicting opinions, and to determine an important inquiry, and a period of six weeks was considered time enough to investigate the condition of the vessel. The *Undine* was, therefore, on Monday last, laid upon the new graving slip in the dockyard; and, on examination by Admiral Sir Charles Ogle, the commander-in-chief, himself, Mr. Fincham, the master shipwright, Mr. Owen the supervisor of metals, and Commander Crispin, so decided a contrast was presented between the one side of the vessel and the other, that no doubt of the success of the preparation of Mr. Hay over that of the common red lead remained in the minds of any of them. On the port side, covered with Mr. Hay's preparation, the bow was entirely clean, and as beautifully smooth as new copper; whilst, under the bilge, and in some places under the stern of the vessel, there were a few patches of harbour mud, and dead sea-weed, which the dash of a bucket of water, or the rise of a single tide would effectually clean off. On the red lead side, however, particularly on the bow, there was a most luxuriant crop of living green sea-weed, rendered entirely crustaceous and difficult to be removed, from the receding of the water from it; in fact, it was impossible to take it off without detaching the red lead from the vessel, thereby clearly proving that the red lead was congenial to its growth, if it did not afford an actual deposit for its nurture and vegetation. Nothing could be more remarkable than the regular covering of the vessel's bows with this living weed, swarming with myriads of marine insects; and nothing could be more conclusive as to the demerits of the red lead, when compared with the composition applied to the other side, than the fact, that whilst the one side was entirely smooth and clean, the other was so foul as to be green instead of red, and was more or less extended along the whole side of the vessel, and to the rudder in particular. There was no doubt at all about the matter—all present, and those who came after to inspect the vessel, expressed themselves in terms of approbation of the successful issue of the experiment; and even Commander Caffin, of the *Scourge*, had no objection to the decision; but in order to test more fully the strength of the adhesion to the red lead, and the facility with which the other side can be cleared of the trifling deposit of mud in the seams, Sir Charles Ogle ordered the *Undine* off the slip at high water—and as she had not been under steam for a fortnight, he directed her commander, Mr. Allen, to proceed to Spithead for a short cruise, determining to have her again high and dry in the morning, and then to inspect her condition. We have detailed at some length the result of this application to iron steamers, knowing of how much importance such experiments are to the mercantile steam companies, as well as to the iron shipbuilders. The *Undine* returned to the graving slip after 1½ hour's cruise, when the port sides of the vessel under water, covered with Mr. Hay's composition, was examined, and found perfectly clean and smooth; and the other side was also free from the harbour mud and marine insects, which formerly adhered to the weed, but the weed itself was too strongly rooted in the red lead to be detached by the great speed of the vessel; Admiral Ogle, Capt. Pelham, Commander Crispin, and other officers, after a minute inspection, confirmed the opinion they had previously expressed, respecting the perfect success of Mr. Hay's invention. This is said to be one of a very few instances in which the navy has been practically benefitted by the services of a chemical officer, attached to the service.

EDINBURGH AND NORTHERN RAILWAY.—The operations on this railway are being carried on with the utmost vigour, and expectations are entertained of its being partially ready for traffic about the end of July. On that portion of the line more immediately in connection with the ferries, extending between Burntisland and Kirkcaldy, a great number of workmen are employed in bringing it to completion, towards which it is very far advanced, a large portion of the permanent line being already laid. The line stretching along the sea-shore, on an elevated embankment, commands a magnificent view of the Firth and of the opposite coast; and should the construction of the carriages afford any facilities for travellers enjoying the splendid prospect, it will, no doubt, become a favourite route. It is confidently anticipated that the railway will be complete between Burntisland and Cupar by the end of July. At present there are 8873 workmen employed upon the works, of whom 794 are masons, 190 joiners, 440 smiths, 274 miners, 634 carters, and 6961 labourers—5689 are Scotch, 94 English, and 3144 Irish.

ALARMING SINKING OF THE VIADUCT OVER THE RIVER AVON.—On Sunday morning, the 20th inst., a number of workmen were employed taking down the stone coping and brickwork of the viaduct over the River Avon, about half a mile from Salisbury, it having been discovered that the stupendous walls were giving way. Fortunately, it was timely discovered, or something awful and disastrous might have been the consequence. A number of carpenters were also busily engaged putting four large pieces of timber, one under each other, to support the four lines of rails at the top: it is, therefore, hoped that the rebuilding of the arches may be carried on without obstructing the general traffic over the same, or any serious accident happening.

MAGIC MIRRORS.—An interesting paper was read at a late meeting of the Paris Academy of Sciences, by M. Stanilas Julian, on the metallic mirrors made in China, and to which the name of "magic mirrors" has been given. Hitherto all attempts by Europeans to obtain information as to the process, in the localities where they are manufactured, have proved failures; some of the persons applied to being unwilling to reveal the secret, and others being ignorant of the process. These mirrors are called magical—because if they receive the rays of the sun on their polished surface, the characters, or flowers *en relief*, which exist on the other side, are faithfully reproduced. The following information has been obtained by M. Julian, from an author named Ou-tseu-hing, who lived between 1260 and 1341. This author says:—"The cause of this phenomenon is the distinct use of fine copper and rough copper. If, on the under side, there be produced, by casting in a mould, the figure of a dragon in a circle, there is then engraved deeply on the disc a dragon exactly similar. Then the parts which have been cut are filled with rather rough copper, and this is, by the action of fire, incorporated with the other metal, which is of a finer nature. The face of the mirror is next prepared, and a slight coating of tin is spread over it. If the polished disk of a mirror so prepared be turned towards the sun, and the image be reflected on a wall, it presents distinctly the clear portion and the dark portion, the one of the fine and the other of the rough copper." Ou-tseu-hing states that he had ascertained this by a careful inspection of the fragments of a broken mirror.

Financial Plan for the Relief of Ireland, and the Landlords of Ireland. By G. J. DE WITT. London: Saunders and Otley, Conduit-street.

This is a pamphlet containing a suggestion for a plan for profitably constructing a portion of the proposed railways in Ireland, with the object of mitigating the unprecedented calamity which now affects that unfortunate part of the kingdom. As the objection to the proposal of Lord George Bentinck's plan was the drain on the public treasury, the author suggests, that Government should step in and lend its credit for the purpose, by the issue of notes for 5*l.*, 10*l.*, 20*l.*, and 40*l.*, bearing interest at 3*l.* per cent. per annum. That a commission be appointed for the adoption of such lines of railway as are sure to pay 4 per cent.; and the Government to receive these notes, or bonds, in payment for all taxes, custom-house dues, &c.; arrangements also to be made for the Bank to pay them on demand. After the completion of the railway, the annual income to be invested in 3 per Cent. Stock. One hundred pounds worth of these bonds, at 3 per cent., amounts in 30 years to 190*l.*; and as 4 per cent. per annum, at compound interest, also in 30 years, amounts to 190*l.*, at the expiration of that period, the capital employed for the construction of the railway would be paid off with interest, and Government will have become the proprietor of a lucrative property; which, supposing it to have cost 2,000,000*l.*, produces a clear income of 80,000*l.* a year. The suggestion is ingenious: its working doubtless, perfectly practicable; and we think it worthy the consideration of some person of influence, who could press it upon the attention of Government.

THE COPPER DUTIES QUESTION.

In the House of Commons, on Tuesday last, Mr. RASHLEIGH presented a petition from 11,000 miners and others in the county of Cornwall, against the abolition or reduction of the duty on copper, and gave notice that he would move that it be printed with the votes.

Mr. MUNTZ then moved, "That the house resolve itself into a Committee of Customs, to consider the duties upon the importation of copper (Act 5th and 6th Victoria, c. 47), with a view to their reduction or abolition." It was not necessary to make many remarks on the motion, because both the late and the present Government had acceded to its principle, and had only refrained from carrying it out from fear of diminishing the revenue. The hon. gentleman then read from several documents the quantities imported in different years from Chili and other places. He showed that the operation of the duty was disadvantageous to the English manufacturer, as it exposed him to competition with foreigners, who got the metal at a lower rate; articles were even imported, and superseded him in the home market. Copper was now almost the only instance of a raw material being taxed. Why should they protect one interest at the expense of others?

Mr. EWART seconded the motion. Manufactures were advancing in countries where they could command foreign copper, as in Chili, in Belgium, and, above all, in the United States. The principal places of export for English copper were France and India. The exportations to France and to India have been gradually falling off, and the result has been most ruinous to our trade. The Government would naturally resist the proposed reduction in the duty on copper; but the same rule which had been applied in other cases would apply to this, and he did not see how the retention of what amounted to a prohibitory duty on this article could be at all defended. The object of their legislation should be to increase their trade and commerce everywhere, and they should endeavour, as in the instance of other trades, to make Great Britain the emporium of the copper trade. If they allowed the foreign copper trade to leave this country, they would inevitably injure the total trade of the empire. (Hear, hear.) On these grounds he seconded the motion of his hon. friend.

Sir C. LEMON was anxious to press upon his right hon. friend, the Chancellor of the Exchequer, not to commit himself to any opinion on this subject, until it had been fairly inquired into by the House. He (Sir C Lemon) had always been willing that a committee should be appointed, and that the whole question should be thoroughly investigated, with a view to future legislation. With respect to the principle involved, he was prepared to admit that no duty whatever on any article should be imposed or maintained merely on the ground of protection; at the same time, he thought that if a duty was found to work well and beneficially to all parties concerned, it would be most unadvisable to abandon it, simply because incidentally such a duty did act as a protection. (Hear, hear.) The public up to this time really knew nothing of the subject; all the information on the point possessed by the House had been derived from petitions and memorials from different persons engaged in the trade; and those memorials, were a committee appointed, it would be very easy to show were full of the greatest and most palpable inaccuracies. The hon. baronet, in conclusion, again expressed a hope that before any change was made, the Government would give the House an opportunity of examining in detail into the subject, and of ascertaining the exact facts. (Hear, hear.)

The CHANCELLOR of the EXCHEQUER (who was most indistinctly heard) was understood to say, that he had early in the session declared that the state of the national finances was not such as to permit him proposing any reduction in the duty on this article—and he was sorry to say that nothing had since occurred to render his situation in any degree improved, or to make him ready to sacrifice any portion of the revenue, even though, as in this case, it amounted only to 50,000*l.* a year. Having so early in the session made that statement, it could not be expected that he could now accede to the motion of the hon. Member; and under the circumstances he thought he would be perfectly justified in complying with the request of the hon. baronet behind him (Sir C. Lemon), and in abstaining from giving any opinion whatever on the subject. (Hear, hear.) That was the course he had pursued with regard to the proposition for a reduction in other duties, and, for the present, the Government were not prepared to consent to make any alteration. He trusted the hon. gentleman would be satisfied that, in the existing condition of the finances, he (the Chancellor of the Exchequer) could not spare any, even the smallest, portion of the revenue. It was, therefore, his duty to state, without going at any length into the question, that he must oppose the motion.

After a few words from Lord W. PAULET, Mr. W. CAREW, and Mr. W. BROWN,

Lord SANDON said, that though the declaration of the Chancellor of the Exchequer, that he was not in a position to take off the duty, in some measure precluded any discussion; yet, as he (Lord Sandon), was greatly interested in the subject, he could not allow the debate to pass without offering one or two observations. It was a great peculiarity in this trade that, while the principle of free trade had been adopted with regard to everything else, with regard to this article alone the principle of protection—as it was called—was still maintained. (Hear, hear.) There had been a consequent increase in the importation of the raw material of every other article, and there had been a very serious retrogression in the importation of copper ore. The right hon. gentleman clung to the small duty with a not unnatural tenacity; but he might rest assured that, as the amount of the revenue derived from that duty had decreased to a great extent within the last few years, it would shortly, if he persisted in continuing the prohibition, become altogether insignificant. It was perfectly obvious that, if they imposed an exorbitant duty on a heavy article, which, when manufactured here, was exported to places where the same manufacture was carried on without any duty on the raw material, the trade would decline, and the competition would completely fail. (Hear, hear.) He could not, therefore, forbear entering his protest against this question being shelved from year to year. Its importance had been lost sight of by the Government; and, as no one defended the duty, the vexed question could only be settled by that reduction which the hon. Member now called for. The question did not solely respect the copper trade: it affected every branch of a variety of trades, and each would be proportionately benefitted by an increased importation and the decreased price of the article. On these grounds he trusted that in a future session the subject would receive due consideration; and he hoped that, in the meantime, nothing would arise to induce stronger measures than those hitherto adopted to be taken in Chili in resistance of our hostile and most ruinous policy. (Hear.)

Mr. RASHLEIGH would take that opportunity of calling the attention of the House to the petition which he had that night presented from the working classes of Cornwall on the subject; and he would state, that his only reason for opposing the motion of the hon. Member for Birmingham was simply that, if carried, it would be detrimental to the best interests of the people of Cornwall. The hon. gentleman, having read the petition which he had previously presented, and which set forth generally that the employment of capital in the mines of Cornwall, and consequently the interests of the mining population there, would be greatly injured by a reduction of the duties on foreign copper, observed that, notwithstanding what had fallen from the hon. Member for Dumfries, neither he nor his family had ever received a single farthing from copper mines in Cornwall. His only reason for opposing the motion was, that he thought they were bound to give encouragement to British industry, and to improve, to the best of their ability, the condition of such men as the copper miners of Cornwall. (Hear, hear.)

Mr. SPOONER hoped the House would bear in mind that the Chancellor of the Exchequer rested his refusal of the motion of his hon. friend simply on the ground of revenue. He said he was not in a condition to lose a revenue of 50,000*l.* at the present moment. Now, he would just call the right hon. gentleman's attention to the fact, that in 1844 the revenue for copper was 75,000*l.*, while in 1846 it had diminished to 54,000*l.* This proved that, as a source of revenue, it was very precarious; and the House might rest assured that this decrease in the revenue would not be the only evil, but that a new and opposing trade would be established. They might depend upon it that copper ore would be exported from Chili and smelted; and if they refused to allow it to be smelted in this country it would be done abroad. (Hear, hear.) A large establishment had been raised at the mouth of the Elbe for that purpose. To refuse to admit the copper of Chili into this country was to ensure a certain market for it in Germany, and, at the same time, to ensure in Chili a certain market for German manufactures. (Hear, hear.) Yet, to save a revenue of 50,000*l.*, the Chancellor of the Exchequer will impose all this loss upon our manufactures. He could not see that the right hon. gentleman was so hard pressed that in a case where justice so clearly demanded this small concession, it could not be granted. There were many articles of manufacture of which copper formed the chief basis, and which used to be exported from this country, which were now imported, and successfully competed with us in our own markets; and were they to be told that the miserable sum of 50,000*l.* a-year was to stand in the way of remedying an evil like this? (Hear, hear.) They had been told that it was their duty to protect native industry; but he saw a large amount of native industry which was fast being destroyed here and transferred to other countries. (Hear, hear.) They protected the industry of the miners of Cornwall, but they destroyed the industry of the manufacturers. (Hear, hear.) He had no doubt that people might be thrown out of employment in Cornwall; but they would at the same time allow him to plead for the manufacturers. (Ironical cheers from the Opposition benches.) It was an act of gross and cruel injustice to say to the one class that they would relieve them of their competition of foreign copper, and to say to the other that they must suffer by that foreign copper being refused. All they wanted was free competition, and the Chancellor of the Exchequer might depend upon it that this was not the only question on which his principle of free trade would be brought to bear. This was pressing only on a small part of the community, but he would yet find that it would be absolutely necessary to alter the whole system of our financial arrangements in this country. (Hear, hear.)

Lord G. BENTINCK was very sorry to be opposed, on the present occasion, to his two hon friends, the Members for Birmingham, who, *pro hac vice*, would appear to be *gemini*. (Laughter.) The Member for East Cornwall thought this was not a proper opportunity for taking the opinion of the Chancellor of the Exchequer on this subject; but he (Lord G. Bentinck) thought, on the contrary, that there could not be a better time than on the eve of a general election to know from the right hon. gentleman what he meant to do on a subject so important in the new Parliament. (Hear, hear.) He thought the miners of Cornwall, on the one hand, and the manufacturers of Birmingham, on the other, would be well pleased to know the course that was to be taken by her Majesty's Ministers. (Hear, hear.) A good deal had been said about protection to native industry; and he was prepared, when the proper time came, to defend the practice of raising revenue on all articles of foreign produce, instead of levying it upon the industry of the country. (Hear.) They had been told by the hon. gentleman opposite (Mr. Muntz), that the copper ore of Chili was equal in quality to that of Cornwall; and he stated, that the copper of Cuba could be produced for 10 per cent. less than could be done in this country. Now, if that were the case, he thought the foreign copper could well afford to pay 10 per cent. duty, and the miners of Cornwall, who were 100,000 in number, had good reasons to be alarmed for any further reduction of that duty. (Hear, hear.) The noble lord, the Member for Liverpool, adverted to the circumstance that English capital was invested in the mines of Cuba; but he must say, he had not the same sympathy for those who invested capital in foreign mines as he had for those who laid it out at home—(hear)—and he had no idea of treating both parties as if they stood upon the same footing.

Mr. TURNER thought the hon. baronet, the Member for West Cornwall, had put the question on the only footing on which it ought to rest, when he observed that there should be a committee of inquiry. He thought the question was not well understood either in that House or the county of Cornwall, and he thought it was their duty to have every possible inquiry made into the subject. If it was shown that the abolition of this duty would be injurious to the people of Cornwall, then care ought to be taken that sufficient inducements were held out, not only to employ the labourers in that county, but to discourage the investment of capital in foreign mines. He hoped the hon. gentleman would not press his motion to a division, but follow the course recommended by the hon. baronet, the Member for West Cornwall, and move in the next session for a committee of inquiry.

After a few words from Mr. J. H. VIVIAN, Sir C. LEMON, and Mr. MUNTZ, in reply,

Mr. NEWDEGATE wished to explain why he voted against the motion. The House saw two interests endeavouring to cut each other's throat, and he had made up his mind that he would not hasten that unhappy state of things. He would not term the motion of the hon. Member for Birmingham precipitate, as he had better means of judging; but, from what he (Mr. Newdegate) had heard in that House, he thought it right to declare that the change would, in his opinion, be precipitate and injurious.

Sir G. CLERK said he should give his vote against the motion, upon the ground stated by the Chancellor of the Exchequer, that at the present moment it was impossible to spare a revenue of 50,000*l.* a-year by the remission of this duty. He hoped, however, that the present Government would do as the late Government had done—namely, watch the trade in copper ore; and, if they found that the fears expressed by the hon. Member for Birmingham were well founded, and that there was a danger of the smelting trade leaving the country, that they would seriously consider the inconvenience and the danger which threatened the commerce of the country thereby.

Mr. G. PALMER should vote for the Government, and against the motion, because he believed that the duty was not only an object of revenue, but that it operated as a protection to the mines of this country.—The House then divided, when the numbers were—

Ayes, 19; Noes, 59—Majority against the motion, 40.

REPEAL OF THE COPPER ORE DUTIES.

[On the first appearance of Sir C. Lemon's pamphlet, we gave an abstract of its contents, but having since been induced to publish, pretty nearly entire, the answer by the Liverpool Committee, in fairness, we now present that of Sir Charles—thus enabling those who are interested in the important question, to read and judge for themselves, on the arguments brought forward by the respective parties in support of their views.]

A Letter to the Right Hon. the Earl of Clarendon.

MY DEAR LORD,—I heard yesterday, that a large deputation had been with Lord John Russell, pressing for the repeal of the duties on copper ore. Of course, I was not there, and cannot exactly tell what arguments they used. But it is fair to presume that they were the same which have been laid before you in the memorials to the Board of Trade, and are repeated in the petitions to the House of Commons. And, as it seems that the agitation is to be continued, it is no longer safe to leave those arguments without some reply. Hitherto no answer whatever has been put in; and no counter-memorial or petition presented. The subject was supposed to have been set at rest for this year, by the announcement of the Chancellor of the Exchequer, that he could not part with the revenue: and, before the next budget comes on, we shall be in possession of another year's experience of the present system to guide us for the future. But it is hardly doing justice to the case of the British miner to be silent any longer; or to let the impression arise in the minds of those whom the parties who agitate are trying to influence, that their arguments are unanswered because unanswerable.* Perhaps you may think that the reply of the British miners should have been made in the same way as the original statements were made—by memorials to the Board of Trade; a motion for the printing of those memorials, and deputations to support them—or, otherwise, that the subject should be brought before the House of Commons, and the answer given there. With respect to the first, we are unwilling to embark in this course of agitation on a subject practically deferred: and the second course was not adopted, because the mis-statements with which the petitions and memorials abound, are of a nature which admits of no reply, except by reference to tables of figures: and it would be extremely difficult to engage the attention of the House of Commons, during the tedious process of reading them. Yet, if the question is to be understood at all, the facts of the case must be produced in evidence; and these facts are almost entirely numerical. If I have misapprehended them, the tables before you will convict me of error; but if the tables are correct—and I have used my best diligence to make them so—the facts, which they represent, are not those of the petitions, and, of course, the conclusions of the petitioners cannot stand on the ground assumed for them. I have purposely abstained from all general argument in support of the present tariff. Were I inclined to state a case in its favour, I could take no better basis than that laid down by Messrs. Gemmell and Co., memorialists, who say, "from the above remark, it would appear that the immediate effects of the change have been exactly those contemplated by her Majesty's Government—viz.: that it has, to a moderate extent, increased the trade of the British shipowners, while it has added largely to the profits of the British copper-mine owners, and been a source of some revenue to the British Government."

I believe that these remarks are strictly true at the present moment; except, perhaps, as to the strength of the expression, that the profits of the mines have been largely increased by the tariff. It is more correct to say, that they have been less ruinously depressed by the immense influx of copper thrown on the market by the facilities for smelting, first given in 1842: and the table of prices, which you will find in a later part of this letter, will show you how little ground there is for the belief, that from any cause whatever, there has been an increase of the price of copper, bringing profit to the miner. After quoting this passage relating to the profits of mine owners, I must beg you to excuse my adverting for one moment to my own position with respect to the question before you. I am bound to endeavour to obtain what credit I can for my statements, and, therefore, I say that I have no personal concern in the issue; that I am not a mine owner, and have no mineral property, nor more than a share or two of quite insignificant value in any mines whatever. My bias, if any, is for the class of miners who are already struggling with great difficulties, and whom a slight increase of pressure would probably to some extent render destitute. I do not say that the repeal of the duty on copper ores will necessarily produce this effect; but, unquestionably, it will have a tendency to aggravate any ill fortune which may befall them, and from this danger I would gladly see them free. Nor is it necessary to incur this risk at the present time. The smelters are doing well; and the principles on which the doctrines of free trade rest are untouched by the maintenance of the duty. For while exceptions are suffered to exist in the tariff, each case must stand on its own ground, and make good its own claim to be excepted.

Now copper, its price all over the world being so largely influenced by the facilities of smelting in England, and the larger proportion of the duty being paid by foreigners, who purchase far more of our produce than is consumed at home, constitutes a case which has no parallel in any other article of commerce.

Sir Robert Peel recognised this distinction, and declared that the copper duties stood on peculiar grounds; and nothing has occurred since to shake the foundations of his opinion. This, at least, is my impression from the facts which I am about to lay before you.

I take the Parliamentary petitions first. They are nine in number; all containing nearly the same topics, frequently expressed in precisely the same language. Their pleas are:—

1. That "copper ore is the only raw material of manufacture still subject to a duty."
2. That, "in consequence of duties first imposed by the tariff of 1842, the trade in foreign copper ores in this country has been, and is likely further to be, materially diminished."
3. That "the copper ore from Chili was almost exclusively smelted in Great Britain previous to 1842," and that "smelting had nearly ceased in Chili when the duty was imposed in Great Britain."
4. That "owing to the duties recently imposed on foreign copper ores imported into Great Britain, and the jealousy manifested in Chili respecting them, the trade in foreign ores is likely to be greatly diminished;" and again, "that the Chilian Government view the duty as a hostile and unfriendly act, which they would meet by encouraging smelting in their own and foreign countries."
5. That "exertions are now being made to establish smelting-works in France and Holland, as well as the United States."
6. That "the result of the change of 1842 has been pernicious to the foreign trade in copper, and to the manufacturing trade in this district (Manchester)."

I will examine these pleas *seriatim*.

1. That "copper ore is now the only raw material of manufacture subject to duty."

This assertion is to be found in the petitions from Liverpool and London. Both places where the most accurate information is at hand, and may be easily obtained. Yet the petitioners prefer to shut their eyes, lest they should see timber and tallow staring them in the face.† This off-hand manner of statement seems to run through all the petitions, and gives a character to all their allegations.

The two articles here overlooked—namely, timber and tallow—are extensively consumed in the Cornish mines, and the former has been made by the tariff of 1842 to press on them with a severity to which they were quite unaccustomed till that year. If, therefore, as the petitioners seem to imply, the period immediately preceding 1842 was the more perfect system, let them give back to the miner the relief from the duties on timber, which he then enjoyed, of which duties he now pays so large a share.

The second plea is that, "in consequence of duties first imposed by the tariff of 1842, the trade in foreign copper ores to this country has been, and is likely further to be, materially diminished."

This plea represents a growing case of diminution arising from a cause which commenced in 1842. If your lordship will look at the following table, the fact will disclose itself—not as stated by the petitioners, showing a diminished importation of ores since 1842, but a vast increase, amounting to one-third of the metallic copper derived from those ores imported since 1842.

I compare the four years immediately preceding the tariff with the four years which have followed it:—

	Tons.	
1838	5546	Average of four years preceding 1842, 7238 tons.
1839	5641	
1840	7680	
1841	10,087	
1842	9705	
1843	11,655	Average of four years following 1842, 11,738 tons.
1844	13,246	
1845	11,172	
1846	10,878	

Here, then, is an increase in the imports of foreign copper in ore since the tariff of 1842, of 62 per cent. It is true that there has been a decrease in the quantity of copper produced from foreign ores in the course of the last two years; and why?

In 1845, because in that year the export of ore from Chili was very greatly reduced by causes which I shall presently explain—causes totally unconnected with the state of trade, and the inducements to export or retain ores in the countries producing them. And in 1846, because the Cuba mines have fallen off immensely in their produce, partly from natural causes, and partly from causes the work of man, and which probably the mutual interest of the parties concerned will very soon induce them to remove. The first cause is the natural poverty of the mines.

The chances of mining have told unfortunately against the Cuba mines and the Cornish mines in the last year. There are risks in all trades—especially in mining; where the vicissitudes are often sudden and unaccountable. So it has happened in these two countries. The duties certainly have not been the cause of the poverty of the Cornish mines; nor, as I think, have they had a sensible effect in Cuba, where it is notorious that the mines have lost much of their richness. The artificial cause to which I referred is a dispute with the ecclesiastical proprietors, who have much land contiguous to the mines.

The amount of the decrease in both cases stand thus:—

COBRE ORES SOLD AT SWANSEA.‡

In 1845	tons of ore	22,741	value	£261,453
„ 1846	„ „	14,755	„	£168,430
Decrease		7986		£93,014

ORES SOLD IN CORNWALL.§

In 1845	tons of ore	162,557	value	£919,933
„ 1846	„ „	150,431	„	£796,182
Decrease		12,126		£123,751

From the failure of these two sources, the general supply has been diminished to the extent of nearly 2000 tons of metal. This has been partially, but not altogether, compensated by an increase from Chili and Australia; and yet, it is curious to observe, the petitioners rest their case chiefly on the circumstances of Chili. This forms their third plea—namely, that "copper ore from Chili was almost exclusively smelted in Great Britain previous to 1842;" and again, that "smelting had nearly ceased in Chili when the duty was imposed in Great Britain."

This is a great mistake. Mr. M'Gregor has published an account of the trade of Chili, and has shown that, on an average of four years, from 1836 to 1839, both inclusive, Chili exported—

Of copper, in bars	61,757 quintals.
„ in ores	223,922 „
The value of the former being	£185,891
„ the latter „	111,961

Estimating the produce of the above 223,922 quintals of ore at 25 per cent., they would produce nearly 56,000 quintals of bar copper—so that in these four years almost immediately preceding the tariff of 1842, Chili actually exported more than half her produce in copper of her own making.

And a letter, dated 1843, to Messrs Brownells and Co., published by the memorialists (page 15), may be quoted to show that there was no falling off in the interval between 1839 and 1842; for it says, that "the usual product from Chili, all smelted from wood, varies from 6000 to 8000 tons of bar copper annually." Yet smelting in Chili, we are told, had "nearly ceased."

The ores imported into this country from Chili have produced the following amounts of copper in each year:—

In 1839	3385 Tons	In 1843	5649 Tons
„ 1840	2921 „	„ 1844	5217 „
„ 1841	2910 „	„ 1845‖	3623 „
„ 1842	3476 „	„ 1846	6000* „

(* Computed.)

[*To be concluded in next week's Mining Journal.*]

* It is the more necessary to offer some reply now, because the subject has been brought before the Navigation Committee, and treated by the witnesses, not merely with reference to the navigation, but to trade and production generally; and the whole case of the smelters has been brought in, where there was no person present to question their statements.

† I take these two articles because they are given by Mr. Gladstone: but I never could understand why sugar was not a raw material, and the refiner's a protected interest.

‡ I take the Cobre Mine only, because it is far the most considerable; but the Santiago Mine, in Cuba, has fallen off in an equal proportion.

§ From the *Mining Journal*. The sales by private contract are omitted in both years.

‖ It is, I believe, acknowledged that the decrease of 1845, compared with 1844, arose from two causes, both of them accidental and temporary. First, that the import of the year before had been so large; and, secondly, that the extraordinary dryness of several successive seasons had almost exhausted the means of transport. The ore from the mines is brought to the coast on mules, of which only a certain number can be kept, according to the nature of the season and the supply of provender. Now, in the district of the mines, five years, including 1844, passed without a drop of rain, consequently the greatest want of food was felt, and large quantities of ores were left at the mines, which did not reach the ships in that year.

ADCOCK'S PATENT SPRAY-PUMP.

In the year 1842, we published in the *Mining Journal*, from time to time, several important papers, and much valuable correspondence, on this subject. From the interest we then took in the matter, and believing, as we did, that it would succeed in practice, as is evidenced by the remarks made at that period, we have been surprised that the scientific and practical world have not been further enlightened on a subject of such vast importance. On Saturday last we referred to this valuable invention, and now proceed to afford such further information on a matter so rife with interest, as we have acquired from parties well informed on the subject, and who had ample opportunities of testing it practically, at a second trial, which took place at Llanhiddel, on Monday last, the 21st inst.—the results being such as will be seen to bear out the expectations of the patentee.

Mr. Adcock, instead of employing pumps, and pump-rods, with buckets, clacks, and heavy pipes of cast-iron, to raise water from pits in a solid state, avails himself of the mechanical effects produced by a current of air—that is to say, he employs a blowing cylinder, by which he condenses atmospheric air, in the ordinary way, to the requisite amount of pressure—say 3½ to 4 lbs. pressure per square inch. He then conveys the air so condensed into a reservoir, or chamber, of cast-iron; and thence by pipes, made of sheet-zinc, to the bottom of the mine, and again to the top. There are, therefore, three pipes to be considered, all uniting together, and forming but one pipe. There is, at Llanhiddel, the *downcast pipe*, or that through which the air flows from the reservoir, or chamber, to the bottom of the mine; the *upcast pipe*, through which the air, and the water carried up by it, is conveyed to the top of the pit; and the *bend pipe* at the bottom, which unites the two together. These pipes are made of thin sheet-zinc, No. 14 gauge. The downcast pipe is 16 in. diameter, the upcast 12 in., and the bend pipe gradually decreases from 16 in. at the junction with the downcast pipe to 12 in., where it unites with the upcast. In the upcast pipe, about 3 ft. from the bottom of the bend pipe, there is an ingenious contrivance, by which two parts of the upcast pipe, about 6 in. apart, can be separated from the adjoining parts of the same pipe, so as to leave a slit, or space, all round the pipes; and as these slits are beneath the surface of the water in the pit, or mine, when opened, by a contrivance at the top of the pit, a body of water gushes into the upcast pipe—meets the ascending current of air—is dispersed into drops, like drops of rain—and is carried with extraordinary velocity above the top of the pit. A zinc chamber, called the receiver, surrounds the upcast pipe; and in that, and a few feet above the latter, a zinc cone is suspended, with its apex downwards—the apex being so placed, as to be exactly in a line with the centre of the upcast pipe. Hence, the water, coming up with so great a speed, strikes the cone, and is, by it, dispersed, or radiated, on all sides, against the receiver—the consequence of which is, the water falls down in a solid body, to be conveyed through the launder-box away in the usual manner; while the air, having lost its carrying power, by its expanding into the larger space, flows off, unencumbered by water, from the open top of the receiver. The principle of the invention is, therefore, to raise the water from a pit by raining upwards; and we must again repeat, that, at Llanhiddel, the effects are so surprising, it is somewhat difficult to find proper words to convey a correct notion of it to others. Our correspondent (or, indeed, we should say our representative) saw it raise from 1000 to 1200 gallons of water per minute.

At the bottom of the receiver, there is a pipe, leading vertically downwards, to the extent of 5 ft., to convey the water, when in a solid state, from the receiver to the launder. The bottom part of that pipe is 9½ in. diameter; and near its junction with the receiver, it expands, bell-mouthed upwards, from 9½ in. diameter to 11½ in.; yet the body of water is so great, that that pipe becomes so choked, that the water stands in the reservoir 4 in. above its bell-mouth. Again, as stated in our last Journal, a culvert, 11½ in. wide, and 8½ in. deep, although with a rapid fall, is insufficient to carry the body away.

The following eminent and practical iron and coalmasters were present, and witnessed the experiment, who expressed their high satisfaction, and the pleasure they had derived:—Reginald J. Blewitt, Esq., M.P., Llantarnam Abbey, Monmouth; Jno. Harley, Esq., Pontypool Iron-Works; Wm. Williams, Esq., Pentwyn and Golynos Iron-Works; F. Levick, Esq., Cwmcelyn and Blaina Iron-Works; Thos. Powell, Esq., the most extensive coalowner in the kingdom; Decimus Protheroe, Esq., coalowner; Jno. Russell, Esq., Risca Collieries; Thos. Latch, Esq., coalowner; Geo. Gething, jun., Newport; W. T. H. Phelps, Esq., Brithdu Colliery; Jno. James, Esq., merchant, Newport; also engineers from the Blaenafor Iron-Works, British Iron Company, with several gentlemen from London, and the neighbourhood of Newport and Pontypool.

RAISING AND SHAPING METAL BY STAMPING AND PRESSURE.—The following is an abstract of a lecture delivered at the Royal Institution by Mr. Carpmael.—The lecturer's purpose was to show how objects of extreme perfection of workmanship, and of great use in daily life, are produced by simple manipulation. Having adverted to the old process of stamping sheet metal, and remarked that this process generally required that the article stamped should have a flange or rim, and that the process was inapplicable to any ornamental work which required undercutting in the sculptured part, Mr. Carpmael proceeded to describe the improvement lately introduced by *spinning* (*i. e.*, burnishing to form), which is performed by fixing the object in a lathe, and pressing its surface with a blunt tool; and explained how, by means of a divided mandril, undercut forms could be obtained. He then pointed out that this burnishing to form could be alternated with *casting*, and that the flange was rendered unnecessary in the casting process—the metal being driven through a conical mould much on the principle on which pipes, &c., are drawn; the difference being that in the process which he was describing, the object was forced through the gradually contracting aperture by the blow of a heavy weight falling on its lower surface. Mr. Carpmael presented an example in a tea-pot, made of tinned-iron plate by the joint process of casting and burnishing to form. This article, which is of the best fabric, is sold (wholesale) for 1s. 8d. Mr. Carpmael also exhibited the machines by which tin is shaped into boxes and bottles for holding colours, perfumes, &c., by squeezing a small ingot of this ductile metal by a powerful pressure.

At a recent meeting of the Geological Society it was stated, that a thickness of half-an-inch of clay and sand intercepted the heat of a mass of 11 tons of white-hot melted cast-iron for 20 minutes without the heat on the outside of the vessel being sufficient to pain the hand.

VALUABLE ALLOYS.—The *Paris Scientific Review* has published, for the benefit of the industrious workers in metals, the best receipts for composing all the various factitious metals used in the arts.—The following are a few:—Statuary bronze—Darcet has discovered that this is composed of copper, 91·4; zinc, 5·5; lead, 1·7; tin, 1·4. Pinchbeck—copper, 5; zinc, 1. Bronze for cannon of large calibre—copper, 90; tin, 10. Bronze for cannon of small calibre—copper, 93; tin, 7. Bronze for medals—copper, 100; tin, 8. Alloy for cymbals—copper, 80; tin, 20. Metal for the mirrors of reflecting telescopes—copper, 100; tin, 50. White argentan—copper, 8; nickel, 3; zinc, 3½—this beautiful composition is an imitation of silver to the degree of 750·1000. Chinese silver—Mona. Meurer discovered the following proportions—silver, 2·5; copper, 65,24; zinc, 19,52; nickel, 13; cobalt of iron, 0·12. Tutenague—copper, 8; nickel, 3; zinc, 5. Printing characters—lead, 4; antimony, 1. For small types and for stereotype plates—lead 9; antimony, 2; bismuth, 2.

NICKLE.—Nickle, from its scarcity, and the place it has taken in our manufactures in the formation of an alloy, as a substitute for silver, besides being applied to various other purposes in the metallic arts, has become a valuable and important metal. Its produce, as a commercial metal, has hitherto been confined to some valuable mines in Saxony, which (now at a depth of 450 ft.) are said to be declining in produce, while the cost of production has been greatly increased. At Chatham, in the state of Connecticut, there is a mine of cobalt and nickle, first discovered and worked by some German settlers, for cobalt; but finding that nickle greatly preponderated—a metal whose properties were then unknown, and for which there was no market—the mine was abandoned. It afterwards became the property of Governor Seth Hunt, who, after about three years' exploration, during which period he obtained a considerable quantity of cobalt, abandoned it from the same cause. The strata in which the veins are situated is a soft mica slate formation, of the same kindly nature as those which occur in the valuable mines of Saxony, being much softer near the lode, which is always considered a promising feature. There seems to be no doubt as to the lodes continuing, or even improving, in depth; and from the present commercial value of both metals, the judicious working of this mine cannot but be attended with the most profitable results.

HORRIFYING REMINISCENCE.—The following morning, an hour before sunrise, we started to inspect the gold mines of El Bronce de Petorca, which were six miles from the village, and about 160 from Santiago. I visited this mine accompanied by a very intelligent Chilian miner, who, with several of his comrades, was in a mine of this lode, 100 fms. deep, when the greatest earthquake of the 19th Nov., 1822, which almost destroyed Valparaiso, took place. He told me, that several of his comrades were killed, and that nothing could equal the horror of their situation. He said, that the mountain shook so that he could scarcely ascend; large pieces of the lode were falling down; and every instant they expected the walls of the lode would come together, and either crush them or shut them up in a prison from which no human power could liberate them. He added, that when he got to the mouth of the mine the scene was very little better. There was such a dust that he could not see his hand before him—large masses of rock were rolling down the side of the mountain on which he stood; and he heard them rushing past him without being able to see how to avoid them, and he, therefore, stood his ground, afraid to move. In almost all the mines which we visited in Chili, we witnessed the awful effects of these earthquakes, and it is astonishing to observe how severely even the granite mountains had been shaken.—*Sir Francis Head's Journey Across the Pampas.*

THE ELECTRO-MAGNETIC SPARK.—Faraday was the first to elicit the electric spark from the magnet; he found that it is visible at the instants of breaking and of renewing the contact of the conducting wires—and only then.

Around the magnet, Faraday
Is sure that Volta's lightnings play;
But *how* to draw them from the wire?
He took a lesson from the heart:
'Tis when we meet—'tis when we part—
Breaks forth the electric fire.—"M." in *Blackwood*.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—We have this week discovered branches of carbonate of iron, in sinking flat-rod shaft, containing lead. In the 18 fm. level end west we have a considerable improvement—the lode in the end at present is worth 25*l.* per fm.; the back behind this end is also worth about 18*l.* to 20*l.* per fm. In the 12 fm. level end west the lode is worth about 16*l.* per fm.; the stopes under this level, perpendicular to the 18 fm. level, never looked better—worth about 18*l.* per fm.; the eastern stope does not look altogether so well. The winze sinking under the 18 fm. level, on the middle lode, is producing occasional stones of ore—very regular in size, and continuing its course quite perpendicular. At Clon mines, we have intersected several gossan branches, varying in size from 3 in. to 1 ft., but nothing so defined as the gossan lode already reported on. I would certainly recommend our pushing the western ends across the river into Clon Mines sett, before we attempt sinking in Clon Mines. I regret very much not having been able to get a vessel to take the cargo of ore now ready on the mine; however, the *Joseph*, of Bannon, is daily expected here, and our quantity will exceed 40 tons by the 24th, which will be as soon as she can possibly discharge and reload.—T. Argove; G. White.

BEDFORD UNITED.—At Wheal Marquis, the lode in the sump-winze, in the 80 fm. level east, is 3 ft. wide, and worth 35*l.* per fm.; the lode in this level east is 3 ft. wide, and worth 15*l.* per fm. There has been no lode taken down in the 70 fm. level east. There is no alteration in the 58 fm. level east. At Liscombe, the lode in the adit level east is 3 ft. wide, composed of spar, mundic, and spots of ore; and in the rise in this level the lode is 2 ft. wide, producing good stones of ore. The lode in the south engine-shaft is now 4 fms. 2 ft. under the plat, and is 3 ft. wide, composed of spar, mundic, and ore. In the adit level east, the lode is 18 in. wide, producing good stones of ore.—James Phillips: June 22.

COATLITHE HILLS.—The level, east from A shaft, has been driven nearly a fathom during this week; the vein is much the same as when I last wrote, though hardly so much ore in it. In the beginning of the last week we rose some very good work out of the vein, owing to a small string coming in from the north. The horse level is now quite clear to the end, and we have commenced driving.—J. M. Paul.

CUBERT SILVER-LEAD.—The sumpmen are getting on pretty well in sinking the engine-shaft, the ground having become a little more favourable. The lode going east, in the 35 fm. level, is large and promising, worth about three-quarters of a ton per fm.; in the end, going west, in this level, the lode is 2 ft. wide, rather of a hard nature—spar, with mundic and lead, not rich for the latter, worth about one-quarter of a ton of lead per fm. In the 25 fm. level west the lode (just now) is unproductive; the lode in the same level, going east, is 2 ft. wide, worth nearly a ton of lead per fm. In the 15 fm. level the lode eastward is still in a divided state, not having yet got clear of the cross-course—nothing new with respect to the tribute department. Our computed 60 tons (21 cwts.) of silver was sold on Saturday last, the 19th inst., at the offices, 8, George-yard, Lombard-street, London, to Messrs. Walker, Parker, and Co., Chester, for 11*l.* 9s. per ton (21 cwts).—R. Rowe.

DARTMOOR CONSOLS.—I have minutely examined the axle of the large wheel, and find it of sufficient strength to build a wheel 45 ft. diameter, if required—I am happy to tell you it is quite firm and sound, and the cranks are equal to new; I intend to level the loats, in order to convey sufficient water to propel a powerful wheel. Everything has been carried on here in a slovenly manner by the former company. Our new engine-shaft, that is already sunk 15 fms., must be carried deeper—so that it will come down all among the bunches of tin around the cross-courses; next week I will send you a rough sketch where the shaft is, and at what depth it will intersect the lode, cross-courses, &c.; we have got through two runs in the adit, and are now as far as Henry's shaft. The sawyers are constantly at work, cutting timber for future operations, of which we have an abundance on the mine, as well as all other materials; I also find the greater part of the iron connected with the machinery will answer as well as new, and save the company a great deal of money. In about a week the men will have completed the adit. I have carefully considered all my calculations, and find that the 2000*l.* will complete the machinery, and bring tin into the market. I intend forwarding you some specimens, and my next will give you all particulars of the smelting operations.—J. Spargo.

DEAN PRIOR AND BUCKFASTLEIGH.—The lode in the 50, or bottom level, is poor at present, but not without good indications—present price for driving 3*l.* 10s. per fm. In the 40 fm. level we are cross-cutting north, to ascertain if any more of the lode is to the north—price for driving 4*l.* per fm.; the pitches in the back and bottom of this level are without alteration—but the lode in the pitch, back of 50, the appearances are not quite so good as in the past week, although that is no criterion. In the 30 fm. level the lode is 15 in. wide, and has a promising appearance—very much resembling its character near the engine-shaft, where the old miners had good bunches of ore—present price for driving 55s. per fm.—H. Choake: June 22.

DEVON AND COURTENAY CONSOLS.—The end driving east, on south lode, in the 30 fm. level, is looking better than it has looked since the lode was cut—the lode is 3 ft. wide, producing good stones of copper ore; the lode in the end, driving west, on the same lode, is poor, and about 18 in. wide; the lode in deep adit, on south lode, is about 2 ft. 6 in. wide, producing a little copper ore; the lode in shallow adit, on north lode, is about 3 ft. wide, producing some good stones of lead ore.—E. Northey: June 22.

EAST CROWNDALE.—The ground in the engine-shaft continues a close killas, tolerably favourable for sinking, and going down satisfactorily. The sumpmen were obliged, the beginning of the week, to put in a pent-house over the shaft, to cut off the water, which was falling in such quantities, as greatly to impede our sinking; since this has been done, the shaft in the bottom is comparatively dry. At Rix Hill, the ground in the shaft, sinking on the north lode, is still very close, and spare for sinking in—the lode is about 20 in. wide, composed of peach, mundic, spar, and killas, with spots of tin; the ground in the adit level, towards the Rix Hill lodes, is a stiff killas. We have, in the past week, cut through a branch with spots of tin in it; our engine and pit-work are in good order.—S. Paull: June 19.

EAST TAMAR CONSOLS.—The lode in Harrison's shaft is 2½ ft. wide, composed of fluor-spar and lead ores—a very kindly lode. The lode in the 46 fm. level north is 18 in. wide—saving work; the lode in the same level south is 18 in. wide—work of a good quality. The lode in the 38 fm. level north is 14 in. wide—fluor-spar and ore; the lode in the same level south is 20 in. wide—a very kindly lode. At Charlotte's the lode in the 11 fm. level is 2 ft. wide. We are opening ground that will set at a moderate tribute.—B. Robins.

GREAT HEWAS CONSOLS.—In answer to your inquiries, respecting our proceedings, and prospects here, I beg to give you a brief detail of the same. You are aware that when we entered on this sett all the former buildings were removed, and that not one stone was left upon another; that the party then in possession—the Vivians—by working shallow, and by removing, had done considerable damage to the mine, many of the adit shafts were filled up, the adits completely choked, and every whim and other shafts were in bad condition.—Adits: we have at length cleared and repaired the deep adit, communicating with Stanley's shaft, a distance of 400 fms. from where we commenced operations; this tedious, and expensive job of work is finished, as there will be no necessity for our extending the adit further eastward; the shallow adits we have also cleared from its tail to engine-shaft, say 150 fms.—Shafts: the engine-shaft is put in thorough repair, being closely timbered from shallow adit upward, say 15 fms.; this shaft is divided and cased, and the ladders in, the bearers are fixed, cistern plat cut, and ample room made for the plunger-head; Corner shaft is timbered up, divided, cased, and the footway in; and eastern shaft, Northey's, Strawberry's, Pool's, Wearne's, and Stanley's shafts are also timbered up, and put in good repair; the adit shafts are also cleared up, &c.—Erections: we have built a small counting-house which is intended as a sampling house by-and-bye, in which samples can be bruised and assayed very conveniently. The smithy, spacious enough for three forges, and the carpenters' shop, are finished. The walls of engine-house are up, and the roof on; this appears to be a very substantial building, and is admired. The boiler-house and stack are not built, but three or four weeks from this will be sufficient to complete those buildings, in case the weather be at all favourable.—Machinery: since seeing you last, we have succeeded in taking down the engine, which is done without an accident; and after examining the whole, I am happy to inform you, that in getting this engine we made a valuable purchase. The three boilers are in good condition, and worth at least 500*l.*; the air-pump is lined with brass, with brass buckets and cover—and the other brasses are so stout, that we have not less than 200*l.* worth of this metal; these, and the other parts of the engine, are in excellent condition; nearly the whole of the small parts of the engine are already delivered here—and within a fortnight, I hope to get the bob cylinder and boilers brought up, and the engine at work in about two months. We have purchased other mining machinery, such as four water stamps, a horse whim, and other useful articles of machinery. The carpenters' are proceeding with the framing of the shears, capstan, &c., which will be erected within a few days, and as we can drop the lifts to the 36 without obstruction, we shall soon be able to employ a great many tributers; many of the old miners who worked here up to the abandonment of the mine, have given me very flattering reports, which reports, in conjunction with the account of tin raised, as per sampling book, and other indications of success yet to be named, induces me to hope we shall realise all we anticipated.—Iron lode: this lode promises well, and will no doubt yield good profits; we have sunk a shaft on this lode 7 fms. deep, and are driving on its course east and west, and the lode is from 3 to 4½ ft. wide, and yields very rich ores—viz.: red oxide and hematite; this you will bear in mind is quite a new discovery. In addition to the above, there are many other lobs of work done of the utmost ability, a definite description of which would be tedious. Prospects: suffice it to say, that if our proposed plans for working this mine be carried into effect,—viz.: such as lifting the water to surfaces with a 28-inch plunger, to work the proposed stamps, &c.—the small capital to be laid out, say 6000*l.*, will, I have no doubt, put us in a position to make regular and respectable dividends. Capt. Bray has been so kind as to allow me to look at his transverse section of this mine, and the side lode you cut, east of eastern shaft, is shown by him as running parallel with the Hewas lode, and only a few fathoms distant; if this be correct, I have no hesitation in stating that we have in hand one of the first speculations in this country, as this lode can be cut at every level, and from every shaft, by short cross-cuts, and at a trifling expense.—J. Davies.

GREAT WHEAL MARTHA CONSOLS.—Our cross-cut is now driven 15 fms. 4 ft., and we have not yet intersected the lode. We are about 4 ft. beyond our calculation, from which we are led to think, that the lode does not underlay so fast as it did from the 10 to the 20, which is a favourable indication; but as there is a good deal of water issuing from the end, and the ground more favourable for driving, I think we are no great distance from the lode. Our new 40 fm. plunger-lift is now completed to adit, and all the rods put in the shaft. The men are fixing stays, &c., but we shall not connect until we see a greater increase of water. I stated in my last, that in consequence of a greater increase of water at Sherrall's, we were going to put the men costeaning; but I was obliged to take them to assist the pitmen and shaftmen in fixing new pit-work. As this is almost completed, I shall put them to costean again on Monday next.—T. Penaluna: June 19.

GREAT MICHELL CONSOLS.—We have just commenced driving the 35 fm. level, both east and west; no lode has yet been taken down. In the winze sinking below the 22, west of the engine-shaft, the lode continues to produce rich stones of grey and yellow ore.—T. Richards: June 22.

GUNNIS LAKE.—At Chilsworthy, Bailey's engine-shaft is 9 fms. 2 ft. under the 12 fm. level; the lode is 3 ft. wide, producing good stones of ore occasionally. In the 12 fm. level west we are driving north.—W. Richards.

HAWKMOOR.—The lode in the 15 fm. level, east of Hitchins's shaft, is upwards of 3 ft. wide—capel, spar, and mundic.—P. Richards: June 22.

HEIGNSTON DOWN CONSOLS.—The lode in the 20 fm. level, east of North shaft, is 3 ft. wide, still producing very good work. In the 20 fm. level west the lode is 3 ft. wide—good work. The lode in the pitches, in the back of these levels, is yielding good returns.—W. Richards: June 22.

HOLMBUSH.—The diagonal shaft is sunk 6 fms. 1 ft. below the 120 fm. level, the ground in which is still favourable for sinking at present; we have three branches in it, containing rich yellow copper ore, mundic, and spar—two other branches of a similar character having, by their underlie, passed through the shaft within the last 6 ft. sinking, and is to the south of it. The lode in the 120 fm. level, west of the great cross-course, is 14 in. wide, composed of spar, mundic, and a branch of ore, 2 in. wide, on the south wall; the lode in the 120 fm. level, east of Hitchins's shaft (on the north part), is 12 in. wide, composed of spar, mundic, and stones of ore. We are still engaged, at intervals, in clearing the rubbish in the 110 fm. level, east of Hitchins's shaft (on the south part). The lode in the 110 fm. level south is 20 in. wide, composed of soft spar and stones of lead. The lode in the rise, above the 100 fm. level, is 2 ft. wide, composed of spar, prian, and lead, worth 8*l.* per fm.; we expect to make the communication to the 90 fm. level this week; after this is effected we shall set two pitches on tribute, to be worked north and south from the rise, also resume driving the 100 fm. level south on the lead lode; as yet, we have discovered neither lode nor branches in stripping down the eastern side in the 100 fm. level; a few days more will fully satisfy us as to the results, one way or the other, as to any east and west course passing through, at, or near, where the water is issuing from. The lode in the 90 fm. level south is 20 in. wide, composed of spar, prian, and stones of lead. Our parcel of lead ore brought 18*l.* 7s. 6d. per ton (21 cwts.) dry weight, and was purchased by Dr. Somers, of Bristol.—W. Lean.

ILAM.—The lode in the 42 fm. level, west of Robins's shaft, is near 4 ft. wide—a very promising lode, with good slabs of copper in places. In the 67 fm. level, east of the shaft, we are carrying about 4 ft. of the lode—the north wall not yet taken, it may be said to be a very kindly lode. As it is our taking day on Saturday next, I would recommend making a bargain for putting down Robins's shaft, as we have obtained an outlet for the water by a communication from the present bottom level with the cavern; and if it should be found there is a want of air so as to prevent driving east and west and sinking at the same time, I should, under such circumstances, recommend stopping the end going east, and put the men to sink until we have made a communication with Brown's shaft. The 67 fm. level west is suspended for the present, and the men put to drive on the lode, lately taken towards Brown's shaft; this is a very kindly lode, intermixed throughout with copper; we, however, only commenced driving on the 19th inst., so that we cannot say much by way of report; this cannot be called Brown's lode, as it underlays nearly 2½ ft. in a fm.; but this, however, will soon be proved, having set 6 fms., at 6*l.* per fm.—I should think it advisable to sink on the junction of the two lodes as soon as we have driven a few fathoms. We have had a considerable run of attle from the upper workings, which will, however, be cleared in the course of the present week.—J. Sprague: June 21.

KIRKCUDBRIGHTSHIRE.—The lode driving west on the 40 fm. level is worth 15*l.* per fm. for lead, and has every appearance of an increase. The end west in the 30 fm. level is much the same as last reported; the end in this level east, on the caunter, is 5 ft. wide, with spots of lead, but on the whole poor; the rise in this level has been rather poor in the week past, worth now 10*l.* per fm., and we hope to hole it to the 20 fm. about the middle of next week. The end west, in the 20 fm. level, looks well, producing from 2½ to 3 tons of lead per fm. The stopes, and other places of operations, are looking much the same as last reported. In the two weeks past, we have been greatly annoyed with foul air underground. The air-shaft, mentioned in report of June 8, was holed yesterday, and has, in a great measure, freed the mine from foul air, and put new life into the miners.—John Curnow: June 19.

LLANCYNFELIN MINES.—I have carefully inspected the various departments of your mines, the first object of my consideration was the different lodes and branches as developed in the several workings. We first descended the engine-shaft, which has been sunk about 28 fms. since my last visit; this shaft, with its various pump-work is in good order, and capable for any amount of operations which may be carried on, 100 or 150 fms. in depth; the strata through which it has passed, struck me favourably as being congenial for holding deposits of ore, especially as it is situated between the several lodes and branches both north and south, from the engine-shaft, at the bottom level; the shaft is said to be near 10 fms. deeper, the bottom of which I could not see for water; we passed through the cross-cut, at the bottom level, which is 17 fms. long, in a southerly direction to the main lode; this level struck into the old, or 18 fm. level below adit, which had been driven from the whim-shaft (see my former report); this level is driven east of the shaft about 11 fms., the present end of which shows some ore of good quality in disordered ground—nevertheless, I think likely soon to produce good saving work; the back also, in two places, shows saving work of good quality; we then traversed this level which extends many fathoms west of the western whim-shaft, and in course of which I was much struck with the variations of the character of the lode, especially where they have been taking away the ore, the lode now remaining in places spotted with lead, in others little veins interspersed; at one point there is developed a split or horse, to use a mining term, with orey ground both at the north and south walls, and which is likely to unite and form a course of lead at a deeper level; there are also various other favourable indications, such as slickensides in some places, and greens in others; at the extreme end west, the lode is barren and poor (if lode there is at all)—it being either further south, or lost in a hard channel of ground, which runs at that end of the mine; I found by the captain, that a winze had been sunk under this level about 10 fms., and that there was a lode about 18 in. wide, containing good work in the bottom—it was full of water, &c. I shall now describe the 8 fm. level, and return again to the 18, or bottom level; and in passing, I may say, I felt most anxious to see those points, which, at my former visit, showed such a course of ore; I found the remaining parts of the lode, both above and below, that are clear of rubbish, giving evidence of the good ore that had been taken away, and telling me, in the most significant language, that the course of ore taken away was not the only one to be found in this lode. I then examined the winzes on the course of the lode, also the ends, east and west stopes, &c., and (with the exception of the end west, which is in the poor channel), found orey ground in several places, but not such as would pay to work on tutwork, but on tribute (or making the men interested in saving the ore), it would pay especially, considered in connection with the excellent machinery attached to the steam-engine for crushing or stamping the ore; before I leave the main lode, I must say, if the property was my own, and I could possibly obtain the means, I would sink the engine shaft full 20 fms. deeper, intersect the lode, drive east and west on its course under the points before alluded to. I would recommend driving the 18 fm. level east to be under the ground worked at, and near the surface for ore, and which would probably be a good level before long; to this I would add at least six or eight pitches, by a man and boy, or two men each; and though the captain told me they could not get the men, I have no doubt but that means could be taken to introduce this mode of working in this mine, and afford profit to the adventurers as far as the tribute was concerned. I then examined Fearon's shaft, which is sunk about 12 fms., this is intended to cut the north lode—a promising object. Jones's adit, which is driving towards a very kindly branch, the expense of which would not be much, yet, at either of these points, a suspension might take place, till the main lode is developed much further if thought proper; Jones's adit is driven about 70 fms., and leaves about 110 fms. more to be done to cut the first lode shown at the surface—these two points might be suspended if thought proper. In regard to the surface arrangements, both of the steam-engines, with its attachments for crushing and stamping the ore, and pumping the mine, it is well laid out, and in good order; but with regard to the stamping and dressing, there are often details that can be soon put right for a trifling expense; after this, I should recommend the halvan ores to be left on tribute, with the lease of the stamps, and which will do for the taker in 10s., or 12s., in 20s.; by this means the returns would be increased, and the mine further developed at no very great expense, and I hope eventually become a profitable concern. Before I conclude, allow me to say I shall feel pleasure in giving any further explanation to the directors in my power.—J. Paull: *Tavistock, June* 19.

LEWIS.—Our new stamps-axle is set to work, and is doing tolerably well for a new machine. I have not anything particular to tell you, having so recently sent the report, which I hope will meet with your approbation, with that of the plan and section. We hope you will see from the section, the necessity for sunking Praed's shaft, and request to have it begun as soon as possible. The 50 east, on south branch, is looking better since I sent off the annual report. All other places are much the same as when I last reported.—S. S. Noell: June 19.

MENDIP HILLS.—The lode in the 30 fm. level, south of Stainsby's shaft, is become much larger and softer than when I last wrote you, being 7 ft. wide, chiefly composed of white spar and flookan, intermixed with small cubes of lead; this end is extended 41 fms. from shaft. Should the other lodes to be seen at surface, which cross the one we are driving on, retain this regular course and underlie, I expect we shall have the junction of these lodes in the end, about 16 or 18 fms. further south than we are now. In the winze sinking below this level, we are now down near 4 fms., where the lode is 6 ft. wide, consisting of quartz, flookan, iron, and stones of lead—ground favourable for sinking. In the slag department, I have nothing particular to inform you this week. The carpenters are now busily engaged preparing planks, &c., in order to get more launders together as soon as possible.—F. C. Harpur: June 14.—The lode in the winze sinking below the 38 fathom level, is now about 3 feet wide, composed of quartz and flookan, intermixed with particles of lead; the ground is harder for sinking than when I last wrote you. In the 38 fm. level, south of Stainsby's shaft, the lode continues about 7 ft. wide, composed of soft white spar, flookan, and good stones of lead—at times, ground favourable for driving. Our operations in the slag department during the past week have been very favourable; the beds of slag from which the top rubbish is now being removed, continue to look very well. The carpenters are still busily engaged making and fixing launders for the water-course. Our progress with this work has so far been favourable, and I hope by the end of the present week we shall get through the wood with the water.—F. C. Harpur: June 21.

SOUTH DOLCOATH.—The lode in the engine-shaft is not quite so large as it has been, though it still has the same kindly indications for making copper ore in depth. The shaft is now about 6 fms. below the 30 fm. level, which is about 7 fms. below the adit level of all the mines in the neighbourhood. Condurrow on the west, South Wheal Francis on the south and east, Cook's Kitchen and Tincroft to the north, and, indeed, several others I might name—all of which have been productive in depth—made little or no copper till much deeper than this mine is. At the suggestion of P. N. Johnson, Esq., we have suspended all shallow operations, and shall turn our attention entirely to sinking the engine-shaft. The cost to keep the mine in order is so very trifling, that I expect the monthly cost in future will be about 70*l.* Much money has been expended searching for copper ore at shallow levels, which would have been much better applied in sinking. The indications in this mine are much the same as in other mines that have become productive in depth; we must, therefore, hope for like favourable results at proper depth.—W. Paul: June 22.

SOUTH TAMAR UNITED.—The water was in fork 40 fms., but owing to a breakage of the girder of the engine, we have had a delay from Saturday until last evening, before we could get to work; it is now in a fair way of forking again. The men in the adit level are getting on very satisfactorily in clearing and securing the same.—B. Robins: June 22.

TAMAR SILVER-LEAD.—In the 160 ends no lode has been take down for the month, but we intend to do so to-morrow. In the 145 south the lode is split up in branches, and at present poor; in the same level, north of the shaft, no lode has been taken down since my last. In the 135 end south the lode is in disordered ground, at present poor. In the 125 end the lode is 18 in. wide, good saving work. At the north mine, in the 70 end, the lode is small and poor. In the 60 end the lode is 2 ft. wide, composed of capel, and ore work of a rich quality.—James Sprague: June 21.

TINCROFT.—The lode in the 100 fm. level end east is 2 ft. wide, producing occasional stones of rich ore; the same level west is unproductive. The lode in the 90 east is 4 ft. wide, worth 8*l.* per fm.; the west end in the same level has some ore in the bottom of the level, which reaches only 1 ft. high in the end. A rise in the back of the 80 east is worth 8*l.* per fm. for tin; the 80 west is worth 6*l.* per fm. The 60 west is worth 4*l.* per fm. The 50 west is worth 16*l.* per fm. At Palmer's, we have just commenced driving the 80 fm. level west on the south part of East Pool lode. We find occasional stones of ore in this part of the lode, but have generally found the north part to be most productive, and shall get into it as soon as possible. I have nothing particular new to report on in the south mine. The stopes in the bottom of the 152, on Highburrow lode, the 152 end west, and 142 end east, are producing fair quality tinstuff. The 152 east is at present unproductive. The winze sinking below the 120 is worth 10*l.* per fm. The 120 end east is worth 15*l.* per fm. The stopes, in the bottom of the 100, is worth 20*l.* per fm.; the 100 east, on Chapple's lode, is producing some tinstuff, and kindly; the western end, in the same level, is producing some good quality copper ore, and very promising. The 90 end west is worth 10*l.* per fm. for tin and copper ore. We are getting on clearing the Wheal Providence adit, and have this day found some good quality copper ore, which the former workers left to stand by the side of the Druid lode in Carn Brea Mines. I expect we shall put the engine to work, to commence clearing the mine below the adit in three or four weeks. The tribute department throughout the mine continues much the same as for some time past.—W. Paull: June 21.

TRELEIGH CONSOLS.—In the 110 fm. level, east of Christoe's, the lode is 20 in. wide, with a small quantity of ore, not to value. The winze below the 90 east is holed and completed—this is set on tribute at 3s. in the 1*l.* In Garden's shaft, below the 90, the ground is much as reported last week—very hard; in the 90, west of ditto, the lode is about 2 ft. wide, with stones of ore. In the 80, west of ditto, the lode is 3 ft. wide, worth about 14*l.* per fm., and has still a very promising appearance; in the 80, east of ditto, the lode is 1 ft. wide—rather falling off; now worth about 20*l.* per fm. The winze below the 70, east of ditto, is holed to the rise, in the back of the 80 fm. level, this morning, and shall resume driving the 70; in the 70, west of Symons's, the lode is 4 ft. wide, nearly all capel—no mineral to save. In the 60, west of ditto, the lode is 20 in. wide—just as last week, worth 5*l.* per fm.; in the adit east, on Wheal Parent lode, the lode is 18 in. wide, and at present but little ore.—William Symons: June 19.

UNITED HILLS.—In the 90 fm. level, eastern end, the lode is 2½ ft. wide, producing some stones of ore; in the western end the lode is 3½ ft. wide, worth 14*l.* per fm.; in the stopes the lode is 2½ ft. wide, worth 20*l.* per fm. In the 80 fm. level, eastern end, the lode is 3 ft. wide, worth 16*l.* per fm.; west of cross-cut the lode is 2 ft. wide, worth 12*l.* per fm. In the 70 fm. level the lode is 3 ft. wide, worth 6*l.* per fm. The 60 fathom level has been suspended since August last. The shallow adit has been suspended since last setting-day. At Wheal Charles, in the 50 fm. level the lode is 2 ft. wide, unproductive. At Wheal Sparrow, in the 40 fm. level the lode is 18 in. wide, worth 5*l.* per fm. In the 30 fm. level, western end, no lode broken since survey-day; in the stopes the lode is 6 ft. wide, worth 14*l.* per fm. The 20 fm. level is still sinking to the north of the lode. At Williams's the water is in fork to the 90 fm. level, and all the men regular at work.—T. Trevenen: R. Williams: June 22.

WEST WHEAL JEWEL.—In the 115 fm. level, east of cross-cut, on Wheal Jewel lode, lode 20 in. wide, more ore in it than when last taken down. In the 100 fm. level west, on same lode, lode 2 ft. wide, worth 3*l.* per fm.; the winze in the bottom of this level, on same lode, lode 2 ft. wide, producing stones of ore. In the winze, in the bottom of the 85 fm. level, west of cross-cut, on same lode, lode 2½ ft. wide, with a very promising appearance. In the 70 fm. level, west of Williams's cross-course, on same lode, lode 9 in. wide, producing little ore. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, lode 15 in. wide, worth 10*l.* per fm. In the 12 fm. level, west of ditto, on same lode, lode 1 ft. wide, worth 6*l.* per fm.; the stopes in the bottom of this level, east of Quarry shaft, lode 3 ft. wide, worth 25*l.* per fm.; the stopes in the bottom of the adit, east of Pryor's winze, on same lode, lode 2 ft. wide, worth 20*l.* per fm.; in the adit end, west of Quarry shaft, on same lode, lode 1 ft. wide, worth 7*l.* per fm. The 12 fm. level, west of old sump shaft, is communicated to the 12 fm. level, east of Quarry shaft, in the past week. In the 12 fm. level, east of Rowe's winze, on same lode, lode worth 4*l.* per fm.—Richard Johns; Thomas Bray: June 21.

WEST WHEAL MARIA.—The eastern engine-shaft is down 36 fms. 5 ft.; the lode in this shaft is about 5 ft. wide, 15 m. of the north part of which is saving work. The western engine-shaft is down below the 54 fm. level, 6 fms. 3 ft.; the lode in this shaft is about 3 ft. wide, with a little ore in places. In the 54 fm. level, east of this shaft, the lode is 18 in. wide, with occasionally spots of ore; in the cross-cut, south in this level, there is no important alteration.—T. Rodda: June 21.

WHEAL ADAMS.—The sumpmen having been engaged in fixing pumps during a greater part of the week, not much work has been done in the bottom of the shaft. We have, however, resumed clearing it up with vigour, and are making somewhat greater dispatch than heretofore. We have not reached the 50 as soon as we anticipated, which may be accounted for—not only on the unprecedented bad run which we have perseveringly got through and secured, but I have only just discovered that the depth of the shaft from the 40 to the 50 is 12 instead of 10 fms. perpendicularly—so that the latter should have been called the 52 instead of the 50 fm. level. The lode in the winze, sinking to the south of Tonking's pitch, has improved since our last report, with favourable ground, and good indications. The bottom of Tonking's winze is communicated to the pitch, the ground in which has not been taken north of said winze, where there is a lode, which will be wrought on at about 3s. 6d. in 1*l.* At the south end of the winze there is but an arch of ground standing, on which we have this day set men to stope, at 37s. per fm. The cross-cut at the 28 has intersected several small veins of lead ore of good quality, but they are in disordered ground, and not of the same character, as it is contiguous to the lode in other parts of the mine—but to prevent our loosing time and money in merely speculating, we will both assay the lead for silver, and survey the ground, previously to driving further west; the cross-cut in this level north is still in favourable ground. The rise in the 18 has reached 6 fms. above the back of the level—the lode in which has been small during the week, but it is again enlarging, and producing some good saving work. The alterations at surface, more especially in the dressing department, are being carried on economically, and with as little delay as the dressing process will allow. We have at last procured masons, and the smithy will be so far built, that we expect to remove the smith from the old engine-house by the end of the week—shortly after which we shall commence clearing out for building, loading, &c., and for the winding-engine and crusher, the greater part of which are on the mine. We weighed yesterday, and shall ship to-day 15 tons 7 cwts. 2 qrs. of lead, and have now dressed, and mostly at the cellars, 31 tons of lead, and 4 tons of copper ore. We will endeavour to make the former about 35 tons by the end of the week.—J. Prince: June 22.

WHEAL LOUISA.—The ground in the engine-shaft has greatly improved, being highly congenial for mineral productions—the indications being beyond what we expected to see at so early a period. The lode in the 20 fm. level still continues its former improved character, being composed of soft spar, prian, and flookan, with occasionally good stones of copper ore; and from the favourable appearances presented, I am convinced that we shall have a prosperous lode in our next level.—J. Chynoweth: June 21.

WHEAL MARIA (TIN), near Hayle.—In the 30 fm. level end west, the lode is 7 in. wide—poor; in the 30 fm. level east, the lode is 8 in. wide, good stones of tin, but not rich altogether; we have put the sumpmen to rise against Harvey's shaft. The lode in the 20 fm. level end west is 9 in. wide, with some good work for tin; in the 20 fm. level, on Carten Croft lode, the lode is 6 in. wide—

poor; we have suspended this end, and put the men to sink Harvey's shaft against the sumpmen. In the rise in the 10 fm. level end west, on Certen Croft lode, the lode is 1 foot wide, good work for tin. At Calmanares, the western end is suspended here, being poor, and coming home close to the boundary. In the 10 fm. level east, the lode is 1 foot wide, with some good work for tin; in the winze sinking under this level, the lode is 6 in. wide, rich for tin. In the 20 fm. level east, the lode is 8 in. wide, good work for tin; we are now sinking for bearer and cistern, and we hope to get down in three or four days more. I should have written you yesterday, but I thought to have something better to tell you to-day about the lode at the 10 fm. level, in Certen Croft, and it is much as we expected—it is improved. We have 56 men working on tribute; I believe they are getting fair wages, one with the other.—P. PASCOE.

FOREIGN MINES.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, April* 23.—Notwithstanding a few bits of gold from the back of the 14 fm. level, west of Duval's, the mine has afforded nothing of importance, and preserves its long-continued aspect of dreary poverty. The rainy season is an unusually protracted one, and showers of tremendous violence continue to fall. One of these, bursting on Bananal, swept away a large heap of rubbish, collected by the old proprietors as a foundation for their new machinery, and has caused us a little temporary inconvenience—ultimately it will, however, be advantageous, for the force of the element has removed that which we must otherwise have done at considerable expense, as it was so badly placed, and so ill constructed, as to have been worse than useless to us. A very considerable part of the necessary repairs of the old machinery has been completed, and, before the end of this month, the pumps will be at work; much, however, will still remain to be done to the lower lifts (which are new under water) before we can occasionally touch the gold vein. The extortion of the neighbouring Brazilians is likely to inconvenience us for want of houses, if we do not prepare some for ourselves. We have, therefore, commenced a few, which, you may rely, shall be built with every attention to economy, consistent with their durability.—W. J. HENWOOD.

Gold returns from 14th to 22d April, 3 lbs. 10 ozs. 18 dwts.

KINZIGTHAL MINING ASSOCIATION.—The following is a copy of the last report received from Capt. Martin, on the progress and prospects of the company's mines in the Kinzigthal:—

June 9, 1847.—In the *Herrensegen* Mine, No. 1, we are driving six levels—the first is driving on a branch from the main level west, where we have a good branch of ore; we are also driving east on the same branch, where we have no ore at present—but the branch is large, and composed of heavy spar and rich gossan; and in a rise, 10 fms. high, we are driving east and west, and still rising. In these three places, we have a very large lode, with several good stones of ore; also, in another rise, 20 fms. high, we are driving east, and still rising—here, both in the end and rise, we have a very rich branch of silver-lead, worth, as I have been informed, 24*l.* per ton; and further east, in another rise, 10 fms. high, we are driving west towards this lead rise—this lode is large, with sugary spar and lead together. No. 2 we are rising, where both the lodes cross each other—this rise is 5 fms. from the main level, and the lode is intermixed with silver, copper, and lead. No. 3 we are driving a short cross-cut, to open the main level, which has run together for a considerable way.

St. Michael.—No. 1, in this mine, we are driving a cross-cut north to cut a lode; but are obliged to stop it for want of air, and put those men in No. 2, to sink a winze on the course of the lode, against a pare of men that is rising in No. 1; and, as soon as this is done, we shall be able to prove this mine below the main level, where the lode is large, good, and, in some places, very large; but nothing is to be done for the want of air. Much ore has been raised in the back; but nothing has yet been done in the bottom.

Frederick Christian.—In this mine we have opened the level for 50 fms. in length; and, so far as we have opened, the lode is soft and very large; but we have not yet reached the working part of this mine.

Neugluck.—In this mine we are driving a cross-cut north to cut the lode. I am also going to open a mine near the St. Michael, on a very good-looking lode; and, as far as I can trace it on the back, it is from 3 to 4 ft. wide, and composed of a very rich gossan. As far as I can see, the Germans, in times that are past, could not bear the idea of wetting their feet—for, in many places, they have raised ore in the back, and have left much better places in the bottom, where they have not gone one foot below the main level.—EDWARD MARTIN.

NATIONAL BRAZILIAN MINES.—*Cocaes Mine, April* 23.—The intelligence which we have to hand you by this post, is of a rather encouraging and important nature. The greatest part of the ores sent to the stamping mills during the past 10 days, have been extracted from the eastern part of the mine, or Oxenford's stopes; and we feel extremely glad to be able to inform you, that the ores have so much improved in quality as to produce nearly double to that of the preceding 10 days. We have taken several samples from the old workings, as well as from a line of soft jacotinga, about 6 in. thick, which we intersected a foot underneath the old workings. This soft narrow line of jacotinga is met with in Oxenford's stopes, which rests on the foot wall of our lode; the samples taken from the soft line of jacotinga, produced exceedingly well; but those taken from the old workings, were nothing more than a few pieces of hard stone broken from the sides of it, and pounded in a mortar; and we are happy to say, they produce better than any we have before taken from the Serra Velha Mine. We have also taken a sample from the sides of the Cavaco shaft, which was very hard, and pounded it also in the mortar, and it produced exceedingly well.—JOHN HITCHINS.

Gold returns for the past 10 days, from 15th to 24th April, 11 mes. 2 ozs. 1 oz. 57 grs.

ST. JOHN DEL REY MINES.—*Morro Velho, April* 8.—Produce for March, 12,679 oits.; Cata Branca, 140 oits.—12,819 oits.= 123·347 lbs. troy, from 3115·2 tons of ore = 4·07 ozs. per ton. This amount of ore stamped includes 495·2 tons of previously-rejected ores. In 1842 about as much was rejected per month, and the yield per ton was nearly the same—therefore, under the circumstances, the produce must be considered as really good. We ought, however, to be now giving at least 14,500 oits. per month; if the mines were in order we should do this—it would only be picking ore of 4½ oits. up to 4⅝ oits. per ton. I am convinced this ought to be the produce, and I wish to prove this to Capt. Treloar, by actual results, before I leave. In all May I hope to have the other 15 heads of the Lyon stamps renewed—this circumstance alone ought to add 1000 oits. per month to the produce; and, if the ore be abundantly supplied, 16,000 oits. ought to be the produce.

Mine Report.—In this Capt. Treloar resumes all the causes of impediment which have operated against the full supply of ore during the last four months. He tells me that, from next month forward, the supply ought to be as abundant as the number of borers employed will ever break in the mines; if so, I ought to have about 3700 tons. The west and middle Cachoeiras are still resting for this month, to allow the lagging stopes to come to their positions. This accomplished, I trust a full supply of ores will be produced. More free labourers are entering the mines, and I am persuaded this is attributable mainly to the safer state of the mines. The new Cachoeira sump shaft is in hand. This report confirms the first opinion expressed, that the lode at the eastern extremity of the Cachoeira has really diminished in size—I am sorry for it.

Mechanics' Report.—There is nothing particular in this report to allude to, there being no great work on hand; the principal are the temporary pumps in the Cachoeiras, and the renewing of 15 heads in Lyon's stamps.

Store Report.—No timber has been purchased in March, and only 544 cubic feet have been brought in from our own depôts, being part stock of last year. Indeed, independently of the order not to bring in timber, the roads were in such a state that it would have been impossible for purchased timber to have come in from its distance. You will see, in the diary of the 6th inst., a regulation I have drawn up for receiving timber this year. Whether it can be carried out I know not, for we have never been able to regulate the supply of timber as we have wished. Last year presented a perfectly new phase with regard to timber and carts, and we felt literally afraid to interfere with them—it caused surprise, joy, and annoyance simultaneously. We shall see this year whether these two items of expenditure can be governed—so as to produce the actual amount of each required; but our position, with regard to these two things, has been perfectly new. The expenditure of timber you will also see estimated very high for the mine, 11,000 feet for the next nine months; but I cannot think the mechanics' department requires so much. Forty-six old and spare mules have been sold for rs. 600—this completes the saving caused by the hauling machine.—Cost for March, rs. 22,434 292 = 2639*l.* 10s. 6d.

There are rs. 600 deducted from the gross cost for mules sold; there is no timber, and few materials of any kind entered, in consequence of the bad weather. Provisions are about up to the mark—for, though arrears of Milho have been paid for, other articles are deficient. Carriage is under the proper average, and the charges from Rio are very low indeed, only rs. 182; the English charges are heavy enough, rs. 3015 186; the Rio charges, and carriage from Rio, will be coming in upon us at one time. Mr. Muller's salary ceases this month; A. Feitor now will fill his place, at rs. 32, without rations.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

THE ALBERT ADVENTURE.—The numerous applications for shares in this mine has induced the lessees to limit the time for receiving the same. We find, upon inquiry, that the prospects held out in the prospectus are likely to be fully realized, and the reports received from the county are of the most encouraging and gratifying character. From samples, assayed by Messrs. Mitchell, we learn that the silver-lead ores contain from 30 to 40 ozs. of silver to the ton of ore, and the lode continues very promising indeed. It appears that the adit is about 20 fms. from surface at the point they are now driving east and west on course of the lode, the whole of which is saving work; and the lodes are expected to form a junction at about 60 fms., where it is hoped a course of copper ore will be found, and, from the well-known character of the locality, it may be reasonably calculated on. The lode in the bottom of the adit is very good, and they purpose during the dry weather to sink on its course, which will be meeting the expenditure, and facilitating operations, whilst the engine and machinery are in course of erection.

DARTMOOR CONSOLS.—I visited this mine last week; and if you have any friends that will go into this adventure, I do believe they will be amply rewarded for their outlay, as the mine will be worked on a different scale from what it was last. I think I can venture to say, that if the water was in fork, I see a plan to work this mine, so as to give dividends. I shall fix the machinery quite different from what it was last, and the underground operations will be altogether different. During my visit, I took a minute survey of the whole sett.

DEVON AND COURTENAY.—They have driven a cross-cut, north from the shaft, at 80 fms. below the surface, and intersected the lode, which is 3½ ft. wide—the lode contains some black, grey, and yellow copper ore, but not of sufficient quantity to make it worth dressing. In driving the cross-cut, two branches were intersected underlaying towards the lode, from 8 to 4 in. wide, producing good stones of copper ore. These branches will fall in with the lode some fathoms before it is seen at the next level, when I have every reason to believe the lode will be found productive.—A meeting will be held on the 2d July, when a captain will be appointed in place of the late Capt. John Job, who died on the 11th inst.

MARKE VALLEY.—There is an improvement in this mine in the 65 fm. east.

NORTH WHEAL ROBERT.—There has been an improvement here, but the particulars I cannot furnish for a few days, when more is to be seen.

WHEAL ANDERTON.—The prospects of the mine are still as favourable as before reported. There are several tons of tin to grass at the present time, which we shall add to considerably; a further parcel will be sent off on Monday. Our next meeting will take place at the mine, on 22d July, when the appointment of a new purser will take place—Capt. Carpenter having expressed his intention to resign such office, as interfering with his other avocations.

WEST WHEAL MARIA.—They have a large kindly lode in their eastern shaft, producing fine stones of copper ore.

WHEAL FRANCO.—A meeting of adventurers was held at the mine, on Wednesday, the 28d inst., when a dividend of 1*l.* per share was declared: the balance-sheet presented appeared thus:—By March and April ores sold, 1691*l.* 5s. 10d.—To March cost, 461*l.* 17s.; April ditto, 561*l.* 19s. 7d; merchants' bills, 166*l.* 0s. 5d.; dues, 77*l.* 12s. 7d.: leaving balance, 423*l.* 10s. 3d.—[May ores are to be sampled this week. We have not received the official account of the meeting, but hope to have it for next Journal, with captain's report, &c.]

CALLINGTON MINES COMPANY.

The usual quarterly meeting of adventurers was held at the offices, 44, Finsbury-square, on Wednesday, the 23d inst.

R. HODGSON, Esq., in the chair.

The CLERK read the notice convening the meeting, and the following—

DIRECTORS' REPORT.

These mines continue to present the most convincing and satisfactory indications of yielding for many years to come a permanent and increasing profit to the adventurers. Captain Phillips's report will give you a detailed account of the operations during the past three months, from which you will ascertain that no diminution has taken place in the cheering prospects of the adventure, but that the development of the ground tends most positively to confirm the expectation of a continuance of our returns; while the prospects of success on the Kelly Bray lode grow daily more propitious.

The accounts with which you have been furnished, will afford one of the most substantial and practical proofs of the mine's prosperity. The returns of ore have materially increased in quantity and value; and the satisfactory nature of the operation at Kelly Bray, justifies the anticipation of speedy returns from this lode. A dividend of 1*l.* per share has been declared out of the credit balance shown in favour of the mine; and when the reserve fund of 504*l.* is taken into consideration, the funds of the company will be found in an excellent state.

The agent's report and the accounts will now be read, which will afford positive evidence in favour of the prosperity of the mine, and a continuation of dividends. Since the last meeting, Mr. John Garnett Tyrie has been appointed a director of the company, to fill the vacancy caused by the death of Mr. Samuel John Fearon.

AGENT'S REPORT.

Callington Mines, June 16.—In presenting you with a report of our present prospects, and taking a glance of our operations through the past quarter, I beg first to call your attention to the eastern part of these mines—otherwise Kelly Bray. In the latter part of January, we commenced, by sinking from surface, a new engine-shaft, and progressed very satisfactorily with the same, from this time to the end of March; we were then rather more than 14 fms. deep, and no great quantity of water to draw. We then expected to get the shaft 30 fms. deep by the end of June. In this we have been disappointed; the great quantities of rain which fell through the following month, completely inundated our works, and rendered all our attempts to fork the water ineffectual. In May, finding the weather more favourable, we forked the water, and resumed our sinking—the water proving very quick during the whole of the month. At present, we are 22 fms. deep, and have no water to draw. The ground is strongly mineralised. We propose driving a 25 fm. level, calculating on seeing the lode here in about eight weeks from this date, the shaft to be kept sinking at the same time: the distance to cross-cut is 5 fms. We find the lode in the shaft, sinking on the course of the same (now 13 fms. deep), 3 ft. wide, composed principally of gossan, with peach, quartz, mundic, and copper ores—very promising. The underlie is 2½ ft. in a perpendicular fathom; not so quick as we found it—more shallow. The 40 fm. level has been driven east on the Kelly Bray lode, to the great cross-course. This we have driven through, and are now driving south, to the east of the same, about 80 fms. distant from the new shaft, at Kelly Bray; so that you discover a communication can be opened between these two points at no very distant period. The lode we have driven on, we find to be the middle one of three (within 50 fms.), the north one being lately discovered in driving the 40 north; the one we are sinking on at Kelly Bray, is the south one. The ground to the east of the cross-course is favourable for cross-cutting through. At the North mine, about 60 fathoms have been opened, on the course of the lode in the 100 fm. level: the whole of this ground is of the most congenial character—the greater part of it soft. Two pitches are working here, at 6s. in 1*l.* on the value of the lead—the men are getting wages. The lode in the ends continues to present the same cheering prospects; and nearly the whole of the back of the last 25 fms. driven south, will work at from 3s. to 4s. in the 1*l.* The 90 fm. level has been continued south, through ground that will work at moderate tribute; we are expecting to hole a winze to this point, in a day or two; a pare of tributers (two men) are working a pitch on the copper lode at this level; they have 10s. in 1*l.*, and are getting good wages. In the 80 fm. level south, the lode is producing silver-lead ores. The 70 fm. level east, on the copper lode, is in very disordered ground, intersected with several cross branches. The great cross-course has not yet been met with. This point is 90 fms. in a north-westerly direction from our workings at Kelly Bray. The 40 fm. level has been driven north about 14 fms., and a soft channel of elvans intersected, similar in character to the one in the south mine, where the lode has made so rich—here it is unproductive. In the 125 fm. level, south mine, we have opened about 6 fms. on the course of the lode, and find the ground hard; the lode here, as more shallow, is very bunchy, in places 1 ft. wide—rich work. In the 112 fm. level south, the lode is much disordered—large, and producing silver-lead ores. A winze is being sunk a few fms. behind this end, on a cross-course, keeping only the wall of the lead lode, for the purpose of communicating with the 125; the north end has been idle, the air having been deficient. The 100 fm. level, in both directions, is laying open tribute ground. In the 90 fm. level north, we have about 5 fms. of clay slate, between the two channels of elvans—we are now driving through the north one, and opening ground that will be taken away at moderate prices; the back of the south end, so far as driven, will work on tribute; this level will be resumed, so soon as the winze sinking below the same is communicated with the 100 fm. level. The 80 fm. level north, is suspended, being about 20 fms. distant from the 80 south, at the north mine; the latter we intend driving, to communicate. All the ground opened, with very little exception, will pay for taking away. A rich lode is gone down within the last 15 fms. of the end. One point particularly worthy of notice is, the lode being perpendicular from the 112 to the 125, south mine; and not more than 1 ft. in a fm. underlie, from the 90 to the 100, north mine.

Our prospects for the future are equally as good as they have ever been; and we expect to sample, on the 23d, as large a parcel as the last, if not larger.—J. T. PHILLIPS.

From the statement of accounts, it appeared that the costs for Jan., Feb., and March, were 5403*l.* 11s. 3d.; directors, London management, audits, discounts, and law charges, 209*l.* 12s. 8d.; fourth dividend, 1000*l.*; reserve fund, 100*l.* = 6713*l.* 4s. 3d.—By returns of ore, 6297*l.* 7s. 6d.; Kelly Bray cost, 401*l.* 13s. 10d.; balance from last account, 1076*l.* 19s. = 7776*l.* 0s. 4d.: showing balance in favour of the mine of 1062*l.* 19s.—The reserve fund now amounts to 404*l.* 12s. 2d.

The CHAIRMAN and Mr. P. JOHNSON then entered into some explanation as to the works on the Kelly Bray. It appeared, that in the winter and spring they had been so overwhelmed with water, that they could not prosecute the sinking of the shaft; still they were anxious to avoid the expense of an engine, if it could possibly be avoided, as they had no doubt when the weather became dry, they should be able to continue sinking. Such had proved to be the case, and they were now so dry, that water was obliged to be conveyed into the shaft, to enable the men to bore the holes for blasting. Some specimens of gossan from the lode, at a depth of only 15 fms., were laid on the table, which were much admired, as giving indications of great richness in depth.

Mr. JAMES inquired for some explanation as to the charge of 404*l.* in the accounts for the working of the Kelly Bray lode; and from the conversation which ensued, it was evident a very erroneous idea had gone abroad, that it was the intention of the directors to recommend the shareholders to work the Kelly Bray sett separate from the Callington.

The CHAIRMAN, however, explained, that had the expenditure been 4000*l.* instead of 400*l.*, they should have been obliged to deal differently with it, and must have come to them for more capital to prosecute the research; as, however, the amount was small, they had paid the cost out of the Callington funds, without encroaching on the dividend, or the reserve fund. They should proceed to ascertain the character of the lode at the 30, or, perhaps, 40 fm. level; if it cut poor, they should recommend no further outlay; if it cut rich, they could proceed without further subscription—but if it cut in only an intermediate state, which would require it to be seen at a deeper level, they should bring the subject, with their recommendations, before the shareholders. The lode is considered one of great promise, and thus explanation gave perfect satisfaction.

The report and accounts were then adopted, and ordered to be entered on the minutes; and thanks having been passed to the chairman and directors, the meeting separated.

SOUTH WHEAL TRELAWNEY.

A general meeting of shareholders was held at Webb's Hotel, Liskeard, Cornwall, on Saturday, the 19th inst.,—W. GLENCROSS, Esq., in the chair,—when a statement of accounts was submitted, showing a balance of cash now in hand of 22*l.* 2s., and 277*l.* 6s. amount of calls unpaid—viz.:

By balance in favour of the mine on 30th March				£173	7 8
Call made 30th March, at 2*l.*, on 256 shares				502	0 0—£685 7 8
1847—To costs for March				£206	12 8
Ditto	April			203	2 1
Ditto	May			161	6 11—£571 1 8
Balance in favour of the mine					£114 6 0

Assets and Liabilities.

Cash in hand			£22	3	0	
Calls unpaid—August, 1846			33	0	0	UNPAID.
,,	Nov.	,,	60	0	0	Wheal Robins adventurers ... £ 23 15 1
,,	March,	1847	185	0	0	May cost ... 161 6 11
						Balance as above ... 114 6 0
Total			£299	8	0	Total ... £299 8 0

It was then resolved, that a call of 2*l.* per share be made, payable to Mr. T. Hackett immediately; and that the defaulters in the payment of the previous calls be proceeded against without further delay.

The following report from the mining captain was then read to the meeting:

June 19.—I beg to inform you, that the ground in the engine-shaft is favourable for sinking, and is strongly mineralised throughout—such indications are always considered promising. We have nine men in the shaft, and at present we are sinking at the rate of 3 fms. per month, and the ground will stand without being timbered. We shall continue to sink it without intermission, with the same number of men, until we get 30 fms. below the adit level; at this point we purpose driving a cross-cut west, to intersect the lode, cut plat, fix a plunger-lift, &c. Sobey's lode, in the adit level south, for the last 30 fms., is 2½ ft. wide, composed of fine gossan, barytes, mundic, soft spar, and spots of lead; and, in my opinion, is a very promising lode indeed, and is likely to be found a productive one in depth. We have six men driving a cross-cut west from the shaft, which will be communicated to the adit level in the course of two or three weeks; after this is effected, the only pair of men we shall employ (at least for some time) will be the shaftmen—"thereby lessening the cost." We also expect the engine will be completed within a fortnight, fit to work (if then wanted); the expense of this work will be then greatly reduced, which at present, under such circumstances, as that of erecting an engine, is unavoidable.—W. LEAN.

LEWIS MINES COMPANY.

The annual general meeting of adventurers in this undertaking was held at the offices, 44, Finsbury-square, on Tuesday, the 22d inst.

R. HODGSON, Esq., in the chair.

The CLERK having read the notice convening the meeting, the following report was submitted:—

REPORT.

The propitious state of the adventure, and the cheering prospect of perfect success, enables the directors to meet you on this occasion with feelings of pleasure and satisfaction, and to congratulate the proprietors upon the realisation of anticipations which were entertained on the 25th September last.

Since that meeting, the mine has steadily, but considerably, improved; and the tin stuff at surface has increased to the estimated amount of 2500*l.*, which is now in course of being returned; and, as the expense of raising this tin is included in the accounts about to be submitted to you, the balance against the mine will be liquidated.

The most convincing proofs of the mine's prosperity will be afforded by the agent's report, and the united testimony of all who have seen the works; and if the value of the tin at surface, with the calls due, are carried to the credit of the mine, a balance will be shown in favour of the company. The captain's report will show you, that the lode at Wheal Nutt, in the 60 fm. level east, continues to yield excellent work, at an average tribute of 7s., and another pitch will be set at 8s. From this level great quantities of tin stuff have been raised, and the samplings have increased with our improved and extended means of returning the stuff. The 60 west has also a very promising appearance; and in the 50 fm. level the lode is 4 ft. wide, worth 15*l.* per fm.; the average tribute being 8s. 9d. In the 50 west, levels have been extended east and west, and the ground opened at the low tribute of 6s. 8d.; the east end being worth 9*l.* per fm. From these facts, and the low tributes on the lode at the 40 and 30 fm. levels, it may with certainty be said, that the underground prospects present the most conclusive and cheering indications of a most profitable result. It should be particularly observed, that out of the sum of 4627*l.*, the amount of expenditure, a large portion has been expended in the purchase of a stamp's-engine, and the erection of house, stack, and boiler-house. The engine is at present working 12 heads, and 9 more are about to be added; these 21, together with the water-wheel with 12 heads, will be, we consider, sufficient power to return the tin. A burning-house has also been erected, with 30 fms. of flues; and, in fact, strenuous exertions are being made to render marketable the immense quantity of stuff at grass, and make the mine a source of early profit to the adventurers.

The steadiness with which the mine has gradually, but regularly, improved since the last meeting, and the extent of valuable ore ground which has during that period been developed, induces a confident opinion, that the mine will not only form a very profitable, but a very permanent, speculation.

The accounts, with the reports of the agent, will now be read; and they will fully confirm the pleasing and satisfactory account of the mine which we have presented to you; and we hope that in a short time, superadded to prudence, economy, and vigilance, your mine will prove a successful adventure, and a permanent source of profit to the shareholders.

From the statement of accounts it appeared, that the cost and merchants' bills for the 12 months, amounted to 4627*l.* 13s. 10d.; London management, petty cash accounts, &c., 328*l.* 9s. 7d.; balance of last account, 1624*l.* 8s. 9d.—together, 6580*l.* 12s. 2d.—Creditor, by calls paid, 890*l.*; ores sold, 2902*l.* 2s. 5d.—together, 3792*l.* 2s. 5d.; leaving a balance against the mine of 2788*l.* 9s. 9d. In a supplementary statement, it was shown that this deficiency was counterbalanced by calls due, 480*l.*; value of tin at surface, 2500*l.*; giving a balance in favour of the adventurers of 191*l.* 10s. 3d.—The following report from Capt. S. S. Noell was read:—

Lewis Mines, June 14.—Agreeably to your request, I beg to hand you my report of the state and prospects of these mines, with a detailed statement of the operations since your last general meeting, and what we purpose doing in future, &c. Wheal Nutt engine-shaft has been sunk from 9 ft. below the 50 to the 60 fm. level; we have also sunk the sump whim-shaft, copper ore and tin shafts, to the same level, and have extended that level east 59 fms. 5 ft. 3 in. The lode in the present end is 2½ ft. wide, producing some tin, and very kindly—this level has been driven through a very promising piece of ground; we have two pitches working in the back, at an average tribute of 7s. in the 1*l.*, and shall be able to set another pitch next setting day, to the west of tin shaft, at from 3s. to 4s. in 1*l.* The tinstaff which we have raised from the back of this level, has increased our samplings considerably for some months past. The 60 west has been extended 99 fms. 2 ft. 4 in.; the lode in the present end is 3 ft. wide, composed of spar, peach, brent, mundic, iron, &c., with a small portion of tin—this end has a very promising appearance. The 50 fm. level east has been extended 70 fms. 5 ft. 3 in.; the lode in the present end is 4 ft. wide, worth 15*l.* per fm.—this level has passed through good tin ground for the whole length. We have now seven pitches working in the back of this level, at an average tribute of 8s. 2d.; the average price per fm. for driving the level has been about 28s. The 50 west has been suspended for some time, in order to drive a cross-cut south from the present end, and intersect the south branch, which we have done, and extended east and west 12 fms., opening ground that has been set at 6s. 8d. tribute; the east end is now worth 9*l.* per fm. for tin. We have also sunk a winze from the 40 to this level, through ground that will work at a moderate tribute, and have now good ventilation. The lode in the 40 fm. level end east is 2½ ft. wide, worth 5*l.* per fm.—this level has been extended 56 fms. 4 ft. 6 in.; the back over it is now being worked at an average tribute of 7s. 6d. The 40 west is suspended, and the 40 east and west on south branch, until we can stamp more of our tinstuff, now lying on the mine. The 30 fm. level east has been extended 72 fm. 0 ft. 2 in.; the lode in the end is 2 ft. wide, worth 50s. per fm.; and this is also suspended, until we can lessen the quantity of tin stuff now on the mine. The back of this level is now being worked at 10s. tribute; we have some other pitches at this level, on middle lode, working at 7s. 6d. tribute. We have some other pitches at the 30 and 10, working at an average tribute of 9s. 6d. I think our underground prospects are very cheering—more so than ever I saw them before. We have built engine-house, boiler-house, and stack for stamping engine; and have set the same to work with 12 heads, which are now in proper course of working; and on the 15th inst. we expect to set nine other heads to work, which will be 21 heads for the steam-stamps, in addition to 12 heads working by a water-wheel, when we expect to return our tin stuff much more expeditiously in future. We have also built a burning-house, with about 30 fms. of flues; with the alteration very recently made, in lengthening and raising the fines, it has so improved the draft, that it is now doing exceedingly well. Looking at the many improvements and new erections made here since our last annual report, I think the mine was never so promising as now for making the adventurers a remuneration for their outlay. You will see by the plan of the mine sent you, that it will be necessary for us to sink Israel's shaft below the adit, as our levels are getting on fast towards it, and our eastern ground appears to be the most productive part of the mine.—S. S. NOELL.

[The usual report from the mining captain, will be found under the head "Mining Correspondence."]

The report and accounts were then adopted, and ordered to be entered in the cost and minute books; and, thanks having been voted to the chairman and directors, the meeting separated.

STRAY PARK AND CAMBORNE VEAN MINING COMPANY.

A general two-monthly meeting of adventurers was held at the mine, on Friday, the 18th inst., when a statement of accounts was presented, showing balance in favour of the mine of 1439*l.* 7s. 9d., which, having been examined, were allowed, and a dividend of 1*l.* per share declared.—Mr. Reynolds having signified to this meeting his intention of prohibiting Stray Park adventurers from breaking through the boundary between Camborne Vean and Wheal Frances Mine, unless a compensation be paid him for leave of way, Mr. Vawdrey was requested to convene an early special meeting, for taking the subject into consideration.

The statement of accounts showed—balance in hand, April 16, 498*l.* 7s. 11d.; copper ores sold, April 1, 3358*l.* 6s. 3d.—3856*l.* 14s. 2d.—Tutwork cost for March and April, 989*l.* 3s. 5d.; merchants' bills, 370*l.* 13s. 11d.; tribute pay on ores sold April 1, 534*l.* 6s. 5d.; subsist advanced on ditto, 383*l.* 4s. 1d.; lords' dues, 139*l.* 18s. 7d.; payment of dividend, June 18, 1000*l.*—leaves balance in hand, 439*l.* 7s. 9d.—Average monthly gettings of miners in the above two months—tutworkmen, 3*l.* 4s. 6d.; tributers, 3*l.* 16s. 6d.

The following report from the agents was read to the meeting:—

Stray Park, June 18.—In the rise above the back of the 60 fm. level the lode is 3 ft. wide, worth 30*l.* per fm. In the 60 fm. level, driving west, the lode is 18 in. wide, worth 14*l.* per fm.; in the 60 fm. level, driving east, the lode is 1 ft. wide, worth 10*l.* per fm. In the 70 fm. level, driving west, the lode is 2½ ft. wide, worth 20*l.* per fm. In the 60 fm. level, driving west, the lode is 18 in. wide, worth 20*l.* per fm. In the 90 fm. level, driving west, the lode is 1 ft. wide, yielding stones of ore. In the 100 fm. level, driving west, the lode is 2 ft. wide, worth 18*l.* per fm. In the winze, sinking below the 100 fm. level, the lode is 3 ft. wide, worth 20*l.* per fm. In the 110 fm. level, driving west, the lode is 14 in. wide, worth 10*l.* per fm. In the 120 fm. level, driving west, the lode is 2 ft. wide, worth 18*l.* per fm. In the 124 fm. level, driving west, on Stray Park main lode, the ground is changing for the better, and the lode is yielding good stones of ore. In the 130 fm. level, driving east, the lode is 6 in. wide, containing stones of ore; in the 130 fm. level west the men are driving south, under the belief that the main part of the lode has not yet been seen in this level; and, having veins of ore in the cross-cut, we expect to meet with the lode very shortly. In the winze, sinking below the 130 fm. level, the lode is 3 ft. wide, worth 6*l.* per fm. In the 150 fm. level, driving west, the lode is 2 ft. wide, worth 15*l.* per fm.; in the 150 fm. level, driving east, the lode is 1 ft. wide, worth 6*l.* per fm.; in the 160 fm. level cross-cut, driving south, the ground is favourable, price 8*l.* per fm., and in which we expect to cut the main part of the south lode within another month. In the 180 fm. level we have cut the main part of the south lode, and are driving on it east and west; in the 180 fm. level, driving east, the lode is 18 in. wide, worth 10*l.* per fm.—this end is not yet clear of the cross-course, but, when it gets clear of it, the lode is likely to improve; in the 180 fm. level, driving west, the lode is 18 in. wide, worth 15*l.* per fm. At the 124 fm. level, in Stray Park Old Mine, we are clearing a cross-cut, which is driven further south than we have yet seen, and in which there is a report of a lode being cut in the granite, of a very promising nature, about 50 fms. to the south of our present south lode. The tribute ground is looking very well, and our next sampling will surpass the last. The mine, at the present time, shows a greater extent of ore ground discovered than at any past period of our operations. From the back of the 60 fm. level, down to the 180, we have an uninterrupted run of profitable ground; and, should the lode continue to hold good in the latter level for a few fathoms, we shall have to sink the sump-shaft in Camborne Vean, the present bottom of which is the 180.—R. EUSTICE; E. RALPH.

SHEFFIELD MINING COMPANY.—The speculation of this praiseworthy company is now said to be on the eve of trial—that is, the level, or adit, is approaching certain ground, where much ore is expected. Not, however, that it is near the geal, or golconda, where the grand deposit is said to exist; but approaching other places tributary to the main place. That they may be successful is desirous, as on that issue depends, in a great measure, the future prosperity of Eyam.—*Sheffield Iris.*

COPPER MINES AT THE CAPE OF GOOD HOPE.—A rich mine of copper has been discovered in Namaqualand; and grey sulphate of copper, containing 70 per cent. of copper, has been dug at only 10 ft. from the surface. There are indications of the lode extending for miles. The Cape papers, however, do not state the distance of the mines from the nearest port.

A FOREIGN SPECULATOR.—A *gentleman* has been arrested at Lyons, for endeavouring, by passing himself off for a capitalist, possessing rich iron-works at St. Chamond, to induce persons to take shares in a discount bank, with a capital of 6,000,000 francs. It appears, that he was formerly condemned for swindling, under the name of Count de Mondragon.

SCOTTISH CENTRAL RAILWAY COMPANY.—TO THE SHAREHOLDERS.

GENTLEMEN,—You are aware that a meeting of this company is to be held on the 20th proximo, in compliance with a requisition by certain of the shareholders, the leading object of which is to reconsider the arrangement concluded by this company with the Caledonian, the Lancaster and Carlisle, and the London and North-Western Railway Companies. To meet the very active measures adopted by the requisitionists, for securing a majority at that meeting, we have considered it necessary for the protection of our interests, to form ourselves into a committee for the purpose of putting the shareholders in the possession of the true merits of the question.

The present movement, although emanating ostensibly from the shareholders of the Scottish Central, is substantially promoted by certain members of the Edinburgh and Glasgow Railway Company; and in our opinion it is so promoted for purposes of their own, and not with a view to the advantage of the Scottish Central Company.

We need not recapitulate the circumstances under which the arrangement was formed, which is now sought to be overturned. Even if that arrangement had been injurious, in place of being, as it certainly is, most beneficial to the company, we are no longer in a position to draw from it, either legally or with honour. Previous to the general meeting of the 10th November last, we might, unquestionably, have done so. Till then the agreement was contingent; and depended for its validity upon the sanction of the general body of the shareholders. But, this sanction once given, the contract became the act and deed of the company as completely and effectually as if it had been executed under the hand and seal of every individual member.

It has been said that our sanction was obtained, without our being made aware of the true nature of the agreement; but what are the facts? The circular calling the general meeting of the 10th November stated its substance and essential features. The agreement itself was submitted to the meeting, and, after full consideration, was ratified by an unanimous resolution in these terms:—"That the said contract or agreement be ratified and confirmed by the company; that the seal of the company be now affixed to the said deed; and that the directors be authorised and empowered to take all measures for carrying the same into full and complete effect." That resolution, together with the directors' report, *which contained the terms of the agreement*, was communicated the very same day to every shareholder of the company. No dissatisfaction was expressed by any one, because none was then felt; and the leasing companies, in reliance that the contract thus deliberately ratified would be honourably carried out, passed similar resolutions, and proceeded with their arrangements accordingly.

The promoters of the present movement treat this question as if the contract were one which might be cancelled by us at will—forgetting that there are four parties to the agreement, every one of whom is entitled to enforce its fulfilment. At the same time, they feel the necessity of finding some colourable excuse for their attempt at repudiation; and the weak pretence, that we were led into the transaction blindfold, is the best which has occurred to their ingenuity. We have already shown the utter groundlessness of this pretext; and it need not, therefore, be longer dwelt on. The clue to the present agitation is to be found elsewhere. Some parties may, indeed, be actuated by the hope of better terms; but a little inquiry will show that such a hope is entirely without foundation. The guarantee of the Caledonian of 8 per cent. to the Dundee and Perth line, has been pointed to as evidence that better terms might have been secured for us. What can be more inconclusive than such a deduction? The Caledonian Company considered the Dundee and Perth line worth these terms, and it may be presumed that they had reasons of their own for so doing. But does it follow from this that we did not obtain *as good terms as we had any right or reason to expect?* The question is not, whether the Dundee and Perth Company obtained better terms than we did, but whether we obtained the terms to which we were entitled. That we did obtain such terms, we think there can be no doubt whatever.

It is easy to talk in high-flown general phrases of the value of our line, and to denounce the existing arrangement as "a confiscation of our property to the value of half a million." What, however, is the fact? *Simply this—that we have obtained a guarantee for the utmost sum we were ourselves able to show that the line was capable of producing.* Our Parliamentary traffic tables—which will certainly not be suspected of understating prospective advantages—showed a return of only 7 per cent. upon our original capital of 850,000*l.*; and this, too, without making any deductions whatsoever in respect of competing lines. Our present arrangement secures to us 7 per cent. on an increased capital of 1,020,000*l.*, with the additional right to participate equally in any surplus profits. What more could we reasonable desire? Our arrangement, like all others of the kind, contemplates the advantage of both parties, and to this the concession of larger terms to us must have been fatal. As it is, we are strengthened in our position by an alliance with three great and powerful companies; while, at the same time, we are secured, not only against all the contingencies of deficient returns during the first years after the opening of the line, but also against the numerous risks of competition in future years, by the guarantee of these three companies, who are bound to us, moreover, *not merely proportionally, but jointly and severally*, for the due fulfilment of the contract.

We have, in fact, made an excellent bargain, from which it would be most unwise to withdraw, even if we could. But how can we, as gentlemen and men of honour (and surely we are not prepared in our corporate capacity to dispense with the principles which govern our conduct as individuals?)—how can we withdraw from an agreement, which has been ratified and closed with every deliberation and formality, *and on the faith of which important arrangements and large investments of capital have been made?* If the arrangement be legally binding, which we are advised it is, we can only subject ourselves to obloquy and contempt, by attempting to evade it. If it be not so binding, then the whole system of contracts between companies is a farce, and it is worse than idle to talk of a treaty for terms with any other company.

And this brings us to the averment which has been made, that *better* terms can be procured. The Edinburgh and Glasgow Railway, it seems, are in the field courting our alliance, and tempting us with the offer of a 9 per cent. guarantee. We would call on you to consider who these parties are, who are now soliciting our alliance. Are they not the very same persons who formerly thought us worth a guarantee of only 5½ *per cent., with a participation in surplus profits upon a capital, as it then stood, of upwards of six millions!* Why this advance upon their former terms? Have the prospects of our traffic improved since then? Assuredly not. It is not to these, therefore, but to some other source, that we must look for the explanation of this anxiety to detach us from our present powerful and natural connection.

That explanation is not difficult to find. The Edinburgh and Glasgow Railway Company cannot expect a direct return from our line to warrant such a guarantee; but they hope to balance the loss by the control and monopoly, which the possession of our line may give them, of the traffic from the north, between Castle Cary and Glasgow, which they are afraid may be diverted from their own line by the Caledonian Company's Garnkirk branch. It is, therefore, their fear of the Caledonian, which has so marvellously quickened their generosity. It suits them just now to court our alliance, and to amuse us with flattering proposals; but what security have we that their intentions are either serious or untainted by the fickleness which this company have in other instances evinced.

Suppose, for example, the present movement to succeed, and the existing agreement with the Caledonian and Lancaster and Carlisle and London and North Western Companies to be broken off, how should we then stand? Should we not have lost a most valuable certainty, and gained in its stead a naked *offer* of terms, which the merest credulity could alone expect to be realised? For if, according to the principles of the promoters of the present movement, the formally-ratified contracts of companies are to be valid only at the will or convenience of any one of the parties, at what value are the mere *offers of director*s to be rated? And let it not be forgotten, that some of these very directors were themselves the parties to break off from our former agreement with the Edinburgh and Glasgow Company, by attempting to thrust upon us conditions *which were not contained in the agreement*, and which would have given to the Edinburgh and Glasgow Company's board a preponderance in the direction, most detrimental to our interests. Past experience, therefore, justifies on our part the utmost jealousy of these parties. But, placing this altogether out of view, what guarantee have we that the Edinburgh and Glasgow shareholders will ever ratify this or any similar offer? Who can suppose that they will ratify an agreement to pay us 9 per cent., when our own traffic tables show a return of only 7 per cent.? *By any offer which their directors may make, the company are not and cannot be bound.*

Interest, according to the new doctrine, is the one only sanction of bonds; and, the moment their interest leads in another direction, a meeting of shareholders will put a short termination to all previous contracts, by a vote of repudiation, as they did last year in the several cases of the Forth and Clyde and the Union Canals, and the Slamannan, the Ballochmey, the Monkland and Kirkintilloch, and the Wishaw and Coltness Railways—to say nothing of their breach of the solemnly concluded agreement with their manager, Mr. Gregson.

But there are OTHER reasons why any offer from the Edinburgh and Glasgow directors should be regarded with the utmost suspicion. Suppose, for example, this very possible case—that the Edinburgh and Glasgow Company shall succeed in compounding its differences with the Caledonian Company; they have then manifestly no longer the same motive for making a sacrifice to obtain possession of our line. Will you subject yourself to such a risk as this?

Nor is this all. For even although the Edinburgh and Glasgow Company were not to play fast and loose, but to endeavour to place their proposal on an unassailable basis, this could not be done without the intervention of the Legislature. What hope have we that its sanction would be given to an arrangement for an amalgamation on a 9 per cent. guarantee? Already Parliament has decided, upon *principle*, against the amalgamation of our line with the Edinburgh and Glasgow, as being injurious to the public interests; and the recent experience in railway legislation demonstrates that this decision would be confirmed on any fresh appeal. Are they less likely to adhere to it in a future session, because its propriety has since been distinctly recognized by the unanimous vote of a special general meeting of the central proprietors.

On every ground, therefore, the present movement to annul the existing contract with the Caledonian and Southern Companies should be resisted. We are bound to it in law, and, what is more, *in honour*; and, if we were not, still we are bound to it by the most palpable considerations of self-interest. We are asked to surrender a liberal guarantee, which is effectually secured to us, for the sake of an offer which never will be realised; and we are asked to do this, by a violation of the good faith which should govern the transactions of companies as of individuals. The character, as well as the pecuniary welfare of the company, is involved in the decision of the ensuing meeting; and we would, therefore, earnestly impress upon our fellow shareholders the necessity for strengthening the hands of our directors, and of setting these harassing discussions at rest, *at once and for ever*, by negativing by their votes this most unworthy attempt to repudiate the solemnly concluded engagements of the company.

We remain, Gentlemen, your most obedient servants,

(Signed) JNO. ABERCROMBIE, Kensington-square, London.
CHARLES EARLE, Newbold Firs, Leamington.
FOX MAULE, M.P., London.
J. L. M'FARQUHAR, George-street, Mansion-house, London.
JOSEPH BUCKLEY, Alphington, Devon.
ELIAS GIBB, merchant, Glasgow.
WILLIAM BRUCE, merchant, Glasgow.

June, 1847.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public. 49

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 50

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

THE LATE Mr. DAVID MUSHET, formerly of the Clyde Iron-Works.

—This illustrious metallurgist was the discoverer of the Blackband, since fitly named the Mushet Ironstone. He it was who first pointed out its great value to the ironmasters and landowners. This excellent man expired on the 9th of June, at Coleford, Gloucestershire, leaving his widow with two grandchildren. A few friends, therefore, APPEAL to those IRONMASTERS and LANDOWNERS (of Scotland especially), who have, during many years, been reaping thousands annually by his manifold important discoveries in iron making, to show their gratitude and respect. Such persons have now the opportunity of testifying the sense they entertain of his merit, by subscribing liberally towards the support of Mrs. Mushet and her young charge. Mr. Mushet was too ardently devoted to science to pursue his own exclusive interest; and, during his long life, was the means (under Divine Providence) of pouring streams of wealth into the coffers of others—not doubting that his country would handsomely provide for those he left behind; and surely Scotland cannot repudiate the claim.

Subscriptions will be received by Mrs. Mushet, the widow of the late Mr. David Mushet, of Coleford, near Gloucester; Robert Bald, Esq., No. 49, Albany-street, Edinburgh; and Mr. John Upton, mining engineer, Castle-place, Battersea, London. 51

SUBSCRIPTIONS ALREADY RECEIVED.

John Wilson, Esq., Dundyvan	£100 0 0
"An Old and Sincere Friend," Liverpool	500 0 0

(For which most sincere thanks are returned.)

BEAM TIN MINE, in the parishes of ST. AUSTELL and ROCHE, CORNWALL.

This MINE, now working on the COST-BOOK SYSTEM, is situated at the head of that remarkable chain of valleys, extending to the sea, at Par—the alluvial deposit in which has, for ages, been continually worked for grain-tin, and been the principal source from which the manufacturers in England have been supplied with that essential article.

The lodes in Beam were first discovered by the tin-streamers, and are obviously the main, if not entire, source of the immense deposit of tin in the valleys below. The streamers worked on these lodes, near the surface, with considerable profit, and subsequently a company was formed, to proceed to a greater depth by *mining*. The value of the tin raised by them exceeded £300,000—yielding a very large balance of profit; but, as they sunk their shafts diagonally, according to the underlay of the lodes, and the ground being of a soft decomposed granite, it was found impracticable to keep them open when they became deep; and hence, from this mode of working, the proceedings were necessarily suspended, leaving a considerable extent of ground in the western part of the mine, below the 32 fm. level, wholly unbroken. The adventure has since passed into other hands, and operations have been already effected, by clearing the old adit—sinking new perpendicular shafts, and repairing such of the old ones as could be made available—erecting a powerful steam-engine, with a variety of other machinery, in order to reopen the mine to the bottom, which is 82 fathoms below the adit, and wherein there is known to be one of the richest courses of tin ever discovered in Cornwall. 52

The new shafts have been lately sunk 10 fathoms below the adit, and the mine drained to that depth. Some of the lodes (the working of which had been neglected by the former adventurers) have been cut at that level, and are producing tin—so that about 80 tributers are now at work, at an average tribute of 8s. in the *l.*—yielding from 5 to 6 tons of tin per month, worth from £55 to £65 per ton; and preparations are being made to sink further immediately.

The Beam tin (specimens of which may be seen in the British Museum) is of the *first quality*, obtaining a higher price than that of any other mine in the county, and is eagerly sought after by the tin-smelters.

The mine is divided into 480 shares; but as a large proportion of them lies in the hands of a few individuals, they wish to add to the number of their partners, by disposing of some of these shares on moderate terms, in order to bring more capital into the concern, and thereby prosecute the works with greater vigour, and on a more extended scale.

The dues payable to the lords and bound-owners are very moderate, and it is calculated that in one year from the present time, the mine will be open to the bottom, when it is calculated 20 tons of tin, worth £1200, would be raised every month, producing a handsome profit.

The outlay already made amounts to £13,000, and a further sum of £3000 is likely to be the utmost that will be required, since the tin discovered in the ground above the old bottoms is estimated, in value, at £100,000; and the present steam-engine is fully equal to the drainage, at a considerable depth below it; thus providing the means of following down the rich course of tin known to be there.

A majority of the shares might, if required, be ensured to an enterprising and responsible party.

Further information and particulars may be acquired, on application to Mr. Prater, of St. Austell, Cornwall (the vendor's solicitor), or his agents, Messrs. Coode, Browne, and Co., 13, Bedford-row, London (at whose offices an interview with Mr. Prater may be had); to Messrs. Watson and Cuell, St. Michael's-alley, Cornhill; or Mr. R. Tredinnick, Three King's Court, Lombard-street, mining agents. For viewing, apply to Capt. Samuel Robins (the managing agent), on the mine, near St. Austell.—Dated June 24, 1847.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.

J. MURDOCH (successor and late assistant to Mr. Hebert)

Informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain 53
REFERENCE TO A CLASSIFIED LIST OF PATENTS,
(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

PROGRESS OF MINING FROM THE EARLY AGES.—Mining enterprise and science having made such rapid strides, during the past few years, in all parts of the civilised world, a short account of the history and progress of mining and metallurgy, from the earlier ages to the present century, may not prove uninteresting. Egypt, Assyria, Persia, the Caucasus, Asia Minor, the islands of the Mediterranean, Styria, and Spain (known as Iberia), were the first countries where mines began to be explored and worked with activity, from the earliest and most distant periods. From Spain, particularly, the greatest variety of metals were primitively obtained; and, so abundant was silver, that every description of utensils was made from this now valuable and comparatively scarce metal. In the reign of Augustus, gold was chiefly procured from Upper Egypt, Transylvania, the Indies, Asia Minor, Galicia, and the Asturias; silver from Spain, Greece, and the banks of the Rhine; copper from the environs of Constantinople, the Island of Calypso, Rio Tinto (in Spain), the Oural Mountains, and the Abruzzi; iron from the Island of Elba, Styria, and Biscaya (in Spain); lead from Spain and England; tin from England; quicksilver from Almaden and Ephesias (in Asia Minor). The invasion of the barbarians successively destroyed the greater portion of the works commenced under the dominion of the Romans. The new state of civilisation which, however, followed, imposed fresh wants, and these works were again opened and worked, although but slowly—yet they progressed; and, in the 7th century, we find extensive works in the Tyrol, Moravia, Bohemia, and Hungaria. The mines of the celebrated Hartz Mountains were discovered as early as the year 965, and in the course of the 11th century those of Saxony were commenced; the progress of mining industry began to develope itself, and was greatly increased by the discovery of silver mines in Sweden, the copper mines of Mansfield in 1200, and it was in 1240 that the first coal mines were worked at Newcastle. The mines of Europe were thus progressing, when they were suddenly arrested in their progress by the fall in the value of metals, consequent on the discovery of the Americas, in 1492; the crisis, however, was only temporary and the methods of extracting the ores, and working mines, having been greatly improved, and the consumption daily increasing, the European mines were enabled to contend against the American competition. In the 15th century, England had already made a rapid advance in the working of her extensive mines; but it was not until the commencement of the 18th century that they reached any real importance, and the discovery of the steam-engine, and the formation of companies of capitalists, raised them to their present greatness. It was, also, about this time, during the reign of Peter the Great, that the valuable mines of Russia attracted the attention of the Czar, and the particular care and attention of the Government, and the nobles. With respect to the mines of France, they were nearly quite neglected previous to the great Revolution, as either the Legislature did not protect them, or the science was completely unknown—during the last half-century, particularly under Napoleon. Since the peace of Europe, in 1815, opulent companies have been formed for working, on an extensive scale, the mines which exist in various departments, and the science has been taken under the protection of Government, who has established a Royal School of Miners, and Engineering Department, in Paris, attended by the most renowned of their scientific men, with proper instructors, who give gratuitous lectures, and exhibit experiments in mining and metallurgical operations. The mineral productions of the world are calculated to be, annually, worth 64,000,000*l.* to 65,000,000*l.* sterling—one-half of which is supplied by the works established in Europe alone. In Spain, mining industry is arousing from the dormant state in which it has so long lain, and several eminent companies, English and natives associated, are formed and forming for reworking those mines which, centuries since, produced so much wealth—these we shall particularly notice as they progress.

LAMB'S PATENT SCALE PREVENTER.—The injurious effects of the incrustation in steam boilers, and the numerous, serious, and fatal accidents, which have, doubtless, arisen from this source, has induced numerous attempts at prevention by scientific men, some by chemical, others by mechanical, means. Mr. Lamb has obtained a patent for a plan on a mechanical principle, which is said to preserve boilers free from deposit, by ejecting from the water the impalpable particles, which, by their subsidence on the flues, occasion incrustation. A blow-off pipe terminates inside the boiler, a little below the usual water level—the aperture being closed by a valve upon one end of a lever, the other end being jointed to the spindle of a float, which rises and falls with the fluctuations in the water level, and, should the water fall too low, the blow-off pipe is closed, and no more water issues until the proper level is restored. The invention has been applied to numerous steam boilers and land engines with every success.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 7 per Cent., 196 5	Belgian Bonds, 4½ per Cent., 94
3 per Cent. Reduced Ann., 88⅝ ⅞	Dutch, 2½ per Cent., 59½ ⅝ ⅞
3 per Cent. Consols Ann., —	Brazilian, 5 per Cents., 84
3 per Cent. Annuities, —	Chilian, 6 per Cents., 93½
3½ per Cent. Ann., 90⅛ ⅜ ½	Mexican, 5 per Cents., 20
Long Annuities, 9½	Spanish, 5 per Cents., 22⅝
India Stock, 10½ per Cent., —	Ditto 3 per Cents., 34⅝ ½
3 per Cent. Consols for Acc., 88⅝ ⅞	Portuguese, 5 per Cents., 79½
Exchequer Bills, 1000*l.* 2d., 9 5 pm.	Russian, 5 per Cents., 110⅝

MINES.—We have but little to notice this week, for the mining share market has been remarkably heavy, and the transactions of a very limited character; at the same time, there has been a disposition to purchase, but not to conform to present quotations. The shares which have changed hands this week have been principally in the eastern district—viz.: Birch Tor, Callington, Wheal Franco, Wheal Ash, Plymouth Wheal Yeoland, West Wheal Maria, East Crowndale, Exmoor Wheal Eliza, Tavy Consols, Kirkcudbright, &c., &c. Dartmoor Consols, we learn, has been done in the Stock-Exchange at our present quotation.

Stray Park meeting, held on the 18th, gave a dividend of 1*l.* per 1000th share, reserving a balance of about 440*l.* carried to the credit of the adventurers. We are gratified to find that Wheal Franco has arrived at that point, for which the adventurers have been patiently waiting. At the meeting, held on the 23d, the first dividend of 1*l.* per 388th share was declared, leaving a balance in hand, together with May ores unsold. We congratulate the adventurers on the event, and have no doubt of their having a profitable and lasting mine.

In the foreign share market, several transactions have been made in the North British Australasians, and we learn that our northern friends have done some time bargains at 25s. and 30s. per share. Some business has been done in Bolanos, Imperial Brazilian, Asturian, Kinzigthal, and Australian.

RAILWAYS.—At the commencement of the week the share market was evidently influenced by the fluctuation in consols, and was somewhat flat; while on Wednesday and Thursday morning, although Government securities were dull, considerable business was transacted in the share market. The withdrawal of the Railway Regulation Bill, no doubt, gave life and tone to the market. Towards the close, although prices showed great firmness, there was little business—parties appearing more willing to buy than to sell.

MEETINGS.—*Glasgow, Paisley, and Greenock:* special meeting. Bills for a branch line to the Caledonian Railway, a branch line to Glasgow, and to empower the directors to treat for the amalgamation with the Caledonian. They were all agreed to.—The other Railway Meetings will be found in another column.

At Messrs. Lamond's sale on Tuesday prices were pretty steady, in the absence of any very great demand; and on Friday the demand had increased, and prices had considerably improved.

HULL, THURSDAY.—The transactions, since our last, have been to a very limited extent. Mr. Strutt has withdrawn his obnoxious bill, amidst the ridicule it so richly merited. We cannot help thinking, that the same fate would have awaited two or three of the resolutions of the Chancellor's committee, had the same time been allowed for the expression of opinion on the part of the railway community—we allude more particularly to those forbidding interest on calls, and preventing guaranteed preference dividends, where policy, or temporary necessity, dictated such a course. The arrangements of this session ought, at least, to have remained undisturbed, because deeds were signed, and engagements entered into, on the faith that no meddling would be countenanced with bills that stood the ordeal of the Standing Orders, previously adopted and settled.

EXETER.—Mr. R. Tripp, of High-street, has forwarded us a copy of his last half-yearly circular, which, as usual, is full of interesting information. We quote that portion referring to public companies, as being of interest to our readers:—"Nearly all the shares in the local public companies of this city have suffered a slight depression. The Great Western and Bristol and Exeter Railways have fallen in price, but are improving in value; and as there is little or no opposition to the application to Parliament of the branch of the latter railway, from Taunton to Castle Cary—which route shortens the distance from Exeter to London about 30 miles, through a most productive country—it will, if carried, be a very valuable adjunct to the company, and render it independent of the Great Western, or any other company. In the Yeovil, Dorchester, and Exeter Railway, the evidence before the committee of the House of Commons (having had several members of the late Government in support of it) has been very favourable—the battle will, however, have to be fought between this company and the Great Western—the latter claiming, almost as a prescriptive right of way, the use of the broad gauge through the west of England. The Exeter and Crediton Railway is, unfortunately, likely to become a subject of litigation for some time, between the Taw Vale and Bristol and Exeter Companies: the only persons at present likely to derive any benefit by this beautiful line are the gentlemen of the long robe and Parliamentary agents. It is high time that the Cornwall Railway Company should make some progress: it would be for the interest of all parties concerned, if a beneficial lease of it could be entertained by *any* company, enabled to carry out the object of the undertaking.

BEAM TIN MINE.—In our columns of to-day will be found an advertisement with reference to a proposed increase of capital for working this mine, in directing attention to which we feel it only right to draw the distinction between the "Wheal Beam Tin Mine, Devon," noticed in the Journal of last week and the present, the latter being well-known—from its former workings upwards of 300,000*l.* worth of tin having been raised, yielding handsome returns to the adventurers. The mine under notice is in the locality of St. Austell, Cornwall, and hence is distinct from the one mentioned—while we believe each to be worthy the attention of the capitalist. In the former workings the shafts were sunk on the lode taking its underlay, and thus, it would appear, that a considerable extent of ground below the 32 fm. level, in the western part of the mine, is improved. The extreme depth to which the workings were carried was 82 fms. under adit. In the course of the late working new shafts have been sunk, and an engine erected, with the view of unwatering the mine, and prosecuting it to a further depth. The ore is of a superior quality, yielding 60*l.* to 65*l.* per ton. The advertisement, however, to which we refer, is sufficiently ample in its details, as to render any further remarks on our part unnecessary.

TRENANCE MINE.—It appears that, in the 12 fm. level, a vein (if it may be so termed) composed of steatite, with some particles of sulphuret of copper and opal, has been intersected—this is considered to be a branch, or caunter, to the main lode, which it is expected will be taken in driving a few fathoms. The ground, in sinking the new shaft, is more kindly, and set at a reduced price. The mine has been inspected within the past few days by Capt. Joseph Lyle and Capt. Hichens. The number of hands will be increased immediately twofold, and every prospect presents itself of productive results at an early period.

An immense beam, for the engine at the lead mine at Lathill Dale, near Bakewell, Derbyshire, has been cast at the Milton Iron-Works, weighing, with the waggon which conveyed it, 24 tons; it was drawn by 24 horses, and 10 men were in charge of them.—*Sheffield Iris.*

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730 miles of railway, was 162,922*l.*, thus accounted for:—89,339*l.* for the conveyance of passengers and goods together, not respectively apportioned; being an increase over the corresponding week of last year of 13,470*l.*, when the mileage was about 2,292.

Name of Railway.	Lgth. Rway.	Present actual cost.	Last Div.	Traffic Returns. 1847	1846
					£205
Arbroath and Forfar	15	£142,900	3 p. c.	—	745
Chester and Birkenhead	15	658,293	2½	693 8 2	876
Dublin and Drogheda	33	689,248	3½	1298 12 4	1215
Dublin and Kingstown	6	349,736	9	970 2 10	319
Dundee and Arbroath	16½	156,323	6	—	—
East Lancashire	28	814,417	—	842 6 4	9026
Eastern Counties	194	6,513,026	7	11611 6 7	—
Eastern Union	17	227,253	—	1005 8 8	3195
Edinburgh and Glasgow	46	2,112,136	6	3078 13 6	2104
Glasgow, Paisley, and Ayr	53	1,567,281	7	2309 12 2	1150
Glasgow, Paisley, & Greenock	22	835,918	3	1093 15 4	—
Glasgow, Paisley, & Greenock	56¼	1,343,718	—	1377 13 9	20803
Great Southern and Western	241	9,714,939	8	22281 19 7	—
Great Western	70	975,625	—	1326 8 10	42435
Lancaster and Carlisle	378½	18,042,004	10	44752 6 7	1460
London and North Western	4	1,102,717	14	1198 9 3	6339
London and Blackwall	112	5,109,667	7	8785 0 0	8466
London, Brighton, & South Coast	127	4,278,789	9	9406 18 0	6057
London and South-Western	117½	5,036,391	5½	8517 2 4	1886
Manchester & Leeds	49½	1,678,106	5	1873 1 4	17468
Manchester, Sheffield, & Lincolnsh.	329½	7,862,274	7	19884 12 8	—
Midland Company	9	1,184,079	8	859 12 3	1979
Newcastle and Berwick	65	1,184,080	5	2227 15 10	1645
Newcastle and Carlisle	70½	1,199,689	7	2033 0 5	—
Norfolk	72½	1,459,958	—	1607 15 7	951
North British	30	432,014	2½	—	—
Preston and Wyre	15	354,945	—	440 15 2	—
Shrewsbury and Chester	20	1,061,383	6	633 17 7	8595
South Devon	148½	6,888,411	3½	8605 16 11	1326
South-Eastern	80½	886,411	6½	1462 13 9	544
Taff Vale	25	356,333	8½	838 13 1	6862
Ulster	157½	1,712,317	9	7290 15 9	6068
York and Newcastle	162½	2,483,356	10	6915 11 3	
York and North Midland					

LATEST CURRENT PRICES OF METALS.

LONDON, JUNE 25, 1847.

	£ s.	£ s. d.		£ s.	£ s. d.
Iron—Bar *a*..Wales...*ton*	0 0—	8 10 0	Copper—Ordin. sheets,*lb.*	0 0—	0 0 11
„ ..London ..	9 10—	9 15 0	„ bottoms .	0 0—	0 0 12
Nail rods „	0 0—	10 10 0	Yellow Metal Sheathing	0 0—	0 0 9½
Hoop(Staf.)„	0 0—	11 15 0	Tin—Com. blocks *g*...*cwt.*	0 0—	4 8 0
Sheet „	0 0—	13 0 0	„ bars	0 0—	4 9 0
Bars „ „	0 0—	11 5 0	Refined	0 0—	4 11 0
Welsh cold-blast foundry pig .. }	4 10—	5 5 0	Straits*h*	0 0—	4 4 0
Scotch pig *b*, Clyde	3 3—	3 5 0	Banca	0 0—	4 10 0
Rails, average	9 0—	9 5 0	Tin-Plates—Ch.,IC*i*, *box*	1 8—	1 10 0
Russian, CCND *c*..	0 0—	——	„ IX ...	1 14—	1 16 0
„ PSI	0 0—	——	Coke, IC	1 5—	1 6 0
„ Gourieff	0 0—	——	„ IX	1 11—	1 12 0
„ Archangel	0 0—13	10 0	Lead—Sheet *k* .....*ton*	0 0—19	10 0
Swedish *d*,on the spot	0 0—11	15 0	Pig, refined	0 0—20	10 0
„ Steel, fagt.	0 0—16	5 0	„ common	0 0—18	15 0
„ „ kegs *e*	0 0—15	0 0	„ Spanish, in bd.	0 0—18	5 0
Copper—Tile *f*	0 0—97	0 0	„ „ for arrival	0 0—19	15 0
Tough cake	0 0—98	0 0	Zinc—(Sheet) *m* export.*	0 0—	27 0 0
Best selected	0 0 101	0 0	Quicksilver *n* .....*lb.*	0 0—	0 4 6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto *e* In kegs ½ and ¼-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash in bond. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent. * For home use it is 32*l.* per ton.

[*From our Correspondent.*]

Iron.—Welsh and Staffordshire continue in moderate demand, at quotations; Scotch pigs are quiet, but maintain the rate of last week.

Copper is firm, and in good demand.

Tin.—English fell 4*s.* per cwt. on the 21st inst., since which a good business has been done for export.

Tin-Plates and Lead are without change since our last.

Spelter has been in request this week, several parcels have been taken at 20*l.*, and we quote the market firm, with appearance of a slight advance.

GLASGOW PIG-IRON TRADE, June 24.—This is not usually a dull season in pig-iron; but this year, like in most other branches of trade, it is more so than ordinary. The transactions, for the past week, have been limited—chiefly confined to purchases made on account of consumers. It is difficult to quote the real value of this article at present: there is no inclination shown by holders to make sales, unless at an advance; and there is just as little inclination shown to purchase, unless at a reduction. Yesterday a parcel of mixed Nos. were, under peculiar circumstances, forced on the market, and brought 64*s.* 3*d.*—cash.

BOMBAY.—An inquiry has revived for British bar-iron within the last three or four days, and its price is again looking up. At the commencement of the month 600 candies were parted with, at 31 rs. per candy; but 450 candies have since fetched 32 rs., and other transactions have been prevented only by holders demanding a still further advance: of square nail rod 300 candies have been sold at 40 rs. per candy, and of hoop 500 cwts.. at 5½ rs. per cwt. These two last-mentioned sales exhibit a decline in prices, but we understand that the assortments as to sizes were objectionable.—In copper, the only transaction that has transpired is a sale of 200 cwts. of braziers', at 60½ rs. per cwt.—showing a further slight advance. No sales appear to have been made in other descriptions of this metal, but prices of all continue steady.—In lead, 300 cwts. of sheet have been sold at 11½ rs. per cwt., which is an improvement upon the market price last quoted—but in pig nothing has transpired.—We have not heard of any sales in spelter, tin-plates, or steel, but the price of this last (Swedish) is looking down.

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL.

FOR THE FIRST FIVE MONTHS OF 1846 AND 1847.

Metals.		1846.	1847.	*In, in* 1847.	*Dec. in* 1847.
Spelter	*Tons*	3716	501	—	3215
Copper		1728	2204	476	—
Iron, British		4316	4198	—	118
Ditto, foreign		1538	394	—	1144
Tin-plates	*Boxes*	3314	2214	—	1100
Lead	*Tons*	168	566	398	—
Steel		234	390	156	—
Quicksilver	*Bottles*	250	—	—	250

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 17—Carr's Hartley 17—Clavering's Tanfield 15—Davison's West Hartley 17—Dean's Primrose 15 6—Delaval West Hartley 15 6—New Tanfield 16—North Percy Hartley 16 6—Ravensworth's West Hartley 17—West Hartley 17—Wylam 16 3—Wall's End Acorn Close 16 9—Brown's Gas 15—Clennell 16—Gosforth 16 9—Hotspur 16 3—Killingworth 16 6—Eden Main 17 6—Belmont 17 6—Braddyll's Hetton 18—Haswell 18 6—Hetton 18 6—Lambton 16 3—Russell's Hetton 18—Stewart's 18 6—Whitwell 17—Kelloe 18—South Durham 16 9—Seymour Tees 17 6—Tees 18—Derwentwater Hartley 16 6—Howard's West Hartley Netherton 17—Ships at market, 91; sold, 64; unsold, 27.

WEDNESDAY.—Adair's Main 15 6—Buddle's West Hartley 17—Carr's Hartley 17—Chester Main 16—Davison's West Hartley 17—Delaval West Hartley 15 6—Dipton Tanfield 14 6—Hasting's Hartley 17—Holywell Main 17—New Tanfield 16—Original Tanfield 15 6—Ord's Redheugh 15 6—South Pesareth 15—Tanfield Moor 17 6—West Wylam 16 3—West Hartley 17—Wylam 16 3—Eden Main 17 6—Derwentwater Hartley 16 6—Howard's West Hartley Netherton 17—Wall's End Bewicke and Co.'s 17—Brown's Gas 15 6—Gosforth 17—Hedworth 15 6—Walker 17—Wharncliffe 17—Belmont 17 6—Braddyll's Hetton 18—East Hetton 16 9—Haswell 18 9—Hetton 18 6—Keepier 18—Lambton 18 3—North Hetton Lyon's 17 3—Russell's Hetton 18—Richmond 17 3—Stewart's 18 6—Hudson's Hartlepool 17 6—High Thornley 16 3—Kelloe 18—Adelaide Tees 17 9—South Durham 17—Seymour Tees 17 6—Tees 18 3—West Tees 16 9.—Ships at market, 125; sold, 89; unsold, 36.

FRIDAY.—Adair's Main 15 6—Carr's Hartley 17 3—Chester Main 16 3—Dipton Tanfield 15—Hasting's Hartley 17 3—Holywell Main 17—New Tanfield 16—Original Tanfield 15 6—Ord's Redheugh 15 6—South Pesareth 15—Tanfield Moor 17 6—West Wylam 16 3—West Hartley 17—Wylam 16 3—Eden Main 17 6—Derwentwater Hartley 16 6—Howard's West Hartley Netherton 17—Wall's End Bewicke and Co.'s 17—Brown's Gas 15 6—Gosforth 17—Hedworth 15 6—Walker 17—Wharncliffe 17—Belmont 17 6—Braddyll's Hetton 18—East Hetton 16 9—Haswell 18 9—Hetton 18 6—Keepier 18—Lambton 18 3—North Hetton Lyon's 17 3—Russell's Hetton 18—Richmond 17 3—Stewart's 18 6—Hudson's Hartlepool 17 6—High Thornley 16 3—Kelloe 18—Adelaide Tees 17 9—South Durham 17—Seymour Tees 17 6—Tees 18 3—West Tees 16 9.—Ships at market, 125; sold, 89; unsold, 36.

GAS-LIGHT AND COKE COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
5,000	British (London)	£18	£1*	£18
5,000	Ditto (country)	19	1½*	24 24½
1,000	City of London	100	10	210
1,000	Ditto New	100	10	210
4,000	Equitable	50	2½*	38½ 39
10,000	European	20	1*	18 19
12,000	Gas-Light and Coke Chartered Co.	50	6	62½ 63
6,000	Ditto New	10	6	12½ 12¾
9,000	General United Gas-Light Company	50	2	17½ 18½
10,000	Imperial	50	6	81 83
46,400*l.*	Ditto Debentures	100	—	100
8,000	Imperial Continental	39½	4½*	61 63
7,000	Ditto New	28	4½*	61
54,500*l.*	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	50 51
3,000	Ditto	50	5	45 47
9,000	Phœnix, or South London	43	5	35½ 34½
1,000	Ratcliff	80	5	82 84
4,000	South Metropolitan	25	6	31½ 32½

* Those marked with an asterisk (*) are dividend per share.

MISCELLANEOUS COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ½	26 28
10,000	Australian Agricultural	30	1	20 22
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16½ 16¾
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
8,915	Canada	32½	6	28 30
—	City Bonds (Navigation)	—	3½	99 100
1,800	Corn Exchange	87½	1½	26¾
5,000	Droitwich Patent Salt	25	½*	11
2,700	Equitable Reversionary	95	4½	90
—	General Reversionary Interest	100	5	104 106
20,000	General Steam Navigation	14	1½*	24 25
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	½	—
1,500	London Commercial Sale Rooms	—	1½	31 32
6,000	London Reversionary	22	—	23 24
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3½ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	68 70
6,600	Ditto	40	—	59 60
5,387	Reversionary Interest Society	100	4½*	98
—	Royal Mail Steam	—	5½	55½ 56
8,000	South Australian	25	6*	—
20,000	Upper Canada	100	5	93 94
20,000	Ditto	—	5	93 94
10,000	Van Diemen's Land	20	—	3 4

* Those marked with an asterisk (*) are dividend per share.

Hewas Consols.—A meeting of adventurers was held at the mine, on Tuesday last, when the accounts to the end of April were passed, and a call of 7*l.* 10*s.* per share ordered, for the further prosecution of the mine.

Wheal Henry.—A meeting of adventurers was held on Friday last at the mine, when the following accounts were passed, and a call of 2*l.* per share made, for liquidating the balance, and for the further working of the mine:—To balance on February 28th, 126*l.* 9*s.* 4*d.*; cost and merchants' bills for March, April, and May, 164*l.* 13*s.* 10*s.*—291*l.* 3*s.* 2*d.*—By call of 2*l.* per share, 218*l.*: balance in hand, 73*l.* 3*s.* 2*d.*

State of the Mining Districts.—The mining districts of Redruth and Camborne have continued during the past week in the same state of tranquility and order as reported in our last.—*West Briton.*

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	*Company.*	*Paid.*	*Price.*
1000	Abergwessin	7 ..	12
512	Albert Consols	1 ..	0½
1024	Alfred Consols	4½ ..	40
235	Andrew and Nangiles	28½ ..	16
10000	Ayrshire Iron Company	5 ..	4¾
1624	Balleswidden	9 ..	18
128	Balnoon Consols	25 ..	20
10000	Banwen Iron Co.	2 ..	—
1000	Barristown	4½ ..	18
4000	Bedford	2½ ..	2½
128	Besore Lead Mine	14 ..	10
315	Birch Tor Tin Mine	24½ ..	8
8000	Blaenavon	50 ..	23
100	Botallack	175 ..	140
120	Brewer	5 ..	7
10000	British Iron, New, regis.	10 ..	17–18
—	Ditto ditto, scrip	10 ..	19
128	Budnick Consols	52½ ..	40
128	Burthy	20 ..	21
100	Bwlch Cwmerfin	20 ..	—
128	Callestock	17 ..	30
1000	Callington	19 ..	28
256	Caradon Copper Mine	9½ ..	1
256	Caradon Mines	22½ ..	17
256	Caradon United	24 ..	10
256	Caradon Wh. Hooper	20 ..	4
1000	Carn Brea	15 ..	100
2048	Carmarthen Consols	2 ..	2
112	Charlestown	200 ..	100
166	Cleveland	9 ..	6½
512	Coatlithe Hill	½ ..	1½
1900	Combmartin	7½ ..	4½
500	Comblawn	1½ ..	1½
128	Comfort	45 ..	60
256	Condurrow	20 ..	27
2560	Cook's Kitchen	14 ..	5½
1000	Coombe Valley Quarry	1 ..	1½
1000	Copper Bottom	1 ..	5
1024	Cosheen	4½ ..	10
240	Craddock Moor	15½ ..	15
128	Creeg Braws	120 ..	150
500	Cubert Mine	12½ ..	23
2048	Dartmoor Consols	2 ..	3½
7100	Derwent	6½ ..	5
1024	Devon&CourtenayCon.	5½ ..	2½
1000	Dhurode	2 ..	3
186	Dolcoath	30 ..	50
2560	Drake Walls	4 ..	4
10000	Durham County Coal	45 ..	8
256	East Alvenney	3 ..	10
112	East Caradon	42 ..	42
2048	East Crowndale	4½ ..	1½
512	East Combe Silver-Lead	6½ ..	6½
128	East Pool	5 ..	20
100	East Relistian	22 ..	40
9000	East Tamar Consols	1½ ..	2
—	East Wheal Albert	1 ..	3
94	East Wheal Crofty	280 ..	310
256	East Wheal Fortune	2 ..	3
128	East Wheal Rose	50 ..	1300
2048	East Wh. Rough Tor	— ..	2
—	East of Scotland Iron Co.	2½ ..	1½
123	East Wheal Seton	14 ..	20
256	Exmoor Wh. Eliza	3½ ..	10
512	Fowey Consols	40 ..	45
20000	Galvanised Iron Co.	10 ..	9½
10000	Gen. Mining Co. for Irel.	2 ..	1½
2048	Georgia Tin Mines	1½ ..	1½
256	Gonamena	31½ ..	70
128	Goonvrea	4 ..	1½
244½	Grambler & St. Aubyn	— ..	15
100	Great Consols	1000 ..	400
256	Great Callestick Moors	22 ..	25
2560	Great Michell Consols	1½ ..	4
256	Great Resugga Moor	2 ..	4
512	Gt. Wh. Rough Tor Con.	6½ ..	38
1500	Great South Tolgus	2 ..	2
100	Grogwinion	5 ..	—
1000	Gunnis Lake	1½ ..	3
256	Gwinear Consols	5 ..	15
1000	Hanson	14 ..	2
1000	HarrowbarrowOld Mine	8½ ..	2½
800	Hawkmoor	3 ..	2
6000	Heigneton Down Con.	½ ..	2½
256	Herodscombe	½ ..	6
256	Herodsfoot	14 ..	11½
10000	Hibernian	12½ ..	1½
—	Hobb's Hill	4 ..	3
1000	Holmbush	18 ..	8
827	Kirkcudbrightshire	5½ ..	9½
2048	Lamheroog Wh. Maria	9 ..	3
2048	Lanivet Consols	4 ..	2½
200	Larkholes	1 ..	3
128	Lelant Consols	90 ..	60
160	Levant	— ..	90
1000	Lewis	15 ..	6½
1280	Llancynfelin	6 ..	—
1000	Llwyn Malees	5 ..	—
3600	Llynvi Iron	50 ..	60–65
256	Lostwithiel Consols	7 ..	7
128	Ludcott	3 ..	3
4000	Marke Valley	10 ..	—
5000	Mendip Hills	2 ..	1½
128	Metha	23 ..	110
90000	Mining Co. of Ireland	7 ..	6½
256	New East Crowndale	3½ ..	3½
128	North Fowey Consols	25 ..	20
100	North Pool	45 ..	225
70	North Roskear	10½ ..	400
512	North Treburget	2 ..	3
100	North United	72 ..	15
256	North Wh. Abraham	½ ..	12
262	North Wh. Leisure	1½ ..	3½
128	North Wh. Providence	2½ ..	8
15000	Northern Coal Co.	23 ..	2
1200	Old Delabole Slate Co.	25 ..	50
2000	Pantdrainiog Slate Co.	2½ ..	2½
128	Par Consols	900 ..	1000
256	Penhallow Moor	15 ..	4
4000	Pennant	1 ..	3
100	Penrhiw	30 ..	65
256	Pentuan Wheal Mary	2½ ..	6
128	Pen-y-Cefn Mine	50 ..	55
1280	Perran St. George Un.	13 ..	20
128	Perran Wh. Virgin	9½ ..	50
512	Plymouth Wh. Yeoland	4½ ..	22
2048	Prince Edward	1½ ..	1½
112	Providence Mines	35 ..	45
256	Redruth Consols	3 ..	10
10000	Rhymney Iron	50 ..	30
256	Rose Consols	10 ..	11
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
—	Shotts Iron Company	50 ..	65
2500	Silver Valley	4 ..	2
128	South Caradon	10 ..	410
2000	South Dolcoath	2 ..	2
256	Sth. Friendsh. Wh. Ann	14 ..	14
200	South Harvannah	23 ..	26
9000	South Tamar	½ ..	½

BRITISH MINES—*continued.*

Shares.	*Company.*	*Paid.*	*Price.*
256	South Tolgus	2½ ..	18
600	South Towan	10 ..	1½
256	South Trelawney	15½ ..	10
128	South Yeoland	16½ ..	20
128	South Wheal Basset	110 ..	75
124	South Wh. Francis	160 ..	220
256	South Wh. Hope	— ..	5
1000	South Wh. Maria	2½ ..	3½
256	South Wheal Rose	11½ ..	1
10000	Southern&Western, Irish	3 ..	4–5
280	Spearne Moor	30 ..	40
256	St. Austell Consols	8 ..	14
94	St. Ives Consols	— ..	320
128	St. Michael Penkivel	5 ..	10½
1000	Stray Park	43 ..	36
9600	Tamar Consols	5 ..	5½
1024	Tavy Consols	3½ ..	5
6000	Tincroft	7 ..	8
1000	Tin Vale Consols	2 ..	2½
256	Ting Tang	15 ..	10
128	Tokenbury	143½ ..	10
256	Trehane	2 ..	19
5000	Treleigh Consols	6 ..	4
2000	Trenance	2 ..	—
256	Trenow Consols	30 ..	25
96	Tresavean	10 ..	260
120	Trethellan	5 ..	27½
120	Treviskey and Barrier	130 ..	160
256	Trewollack	20 ..	20
128	Trewellard	12 ..	26½
6000	United Hills	5 ..	¾
100	United Mines	300 ..	400
256	Wellington Mines	15 ..	30
128	West Basset	45 ..	25
256	West Caradon	20 ..	168
128	West Cargoll	2 ..	12
512	West Fowey Consols	40 ..	15
256	West Grambler	7 ..	8
—	West Kekewich Consols	— ..	3
256	West Providence	1 ..	18
200	West Seton	40 ..	60
—	West of Scotland Iron Co.	210 ..	212
120	West Trethellan	5 ..	35
256	West United Hills	2½ ..	4
256	West Wh. Friendship	7½ ..	4
3845	West Wheal Jewel	11 ..	2½
2560	West Wh. Maria	1½ ..	1½
256	West Wheal Shepherd	5 ..	2½
256	West Wheal Tolgus	21½ ..	3
256	West Wheal Treasury	19 ..	18–20
5200	Wicklow Copper	5 ..	11
184	Wheal Adams	41 ..	10
1000	Wheal Agar	— ..	8
256	Wheal Albert	10 ..	8
128	Wheal Acland	13 ..	2
256	Wheal Allen	2 ..	5
237	Wheal Anderton	16½ ..	26
128	Wheal Ann	— ..	50½
128	Wheal Arvose	3½ ..	4
1024	Wheal Ash	2½ ..	12
120	Wheal Bal	5½ ..	20
2560	Wheal Barbara	1½ ..	3
256	Wheal Benny	6½ ..	5
256	Wheal Blencowe	8 ..	12½
256	Wheal Bucketts	20 ..	22
256	Wheal Byon Consols	½ ..	½
256	Wheal Calstock	3 ..	4
136	Wheal Clifford	190 ..	190
1024	Wheal Concord	6½ ..	1½
128	Wheal Courtenay	— ..	20
6000	Wheal Curtis	1½ ..	1½
256	Wheal Dyke	12 ..	13
256	Wheal Fortescue	5½ ..	12
512	Wheal Fortune Consols	3½ ..	6½
2048	Wheal Frederick	2 ..	2
388	Wheal Franco	27 ..	38
1024	Wheal Grace	2 ..	2½
128	Wheal Harriet	45 ..	50
2048	Wheal Holwell	1½ ..	1½
256	Wheal Jane	16 ..	30
256	Wheal Kekewich	4 ..	4
256	Wheal Louisa	7½ ..	12
112	Wheal Margaret	79 ..	250
256	Wheal Maria (Hayle)	19 ..	12½
1024	Wheal Maria	1 ..	350
4000	Wheal-Martha Consols	5 ..	2
512	Wheal Mary Ann	5 ..	23
256	Wheal Mary Consols	38 ..	25
256	Wheal Mary (Lanivet)	6½ ..	4
256	Wheal Maude	1½ ..	1½
128	Wheal Pollard	12½ ..	12
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	27 ..	30
128	Wheal Rose	60 ..	45
2048	Wheal Samson	— ..	20
99	Wheal Seton	214 ..	350
256	Wheal Sisters	29½ ..	35
256	Wheal Sophia	3½ ..	10
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	9 ..	15
260	Wheal Trelawney	7½ ..	120
256	Wh. Tremaine(St. Ervan)	1½ ..	20
256	Wheal Tremayne	35 ..	32½
128	Wheal Trew	20 ..	21
256	Wheal Trevenna	3 ..	4
92	Wheal Tryphena	140 ..	300
128	Wheal Venland	12½ ..	10
256	Wheal Vlow (Perranz.)	½ ..	½
184	Wheal Vyvvan	— ..	60
256	Wheal Williams	2 ..	18

FOREIGN MINES.

5000	Alten Mining Company	14½ ..	4
15000	Asturian Mining Co.	10 ..	7
20000	Australian	2 ..	6½
10000	Anglo-Mexican Co.	100 ..	1
12374	Ditto Subscription	25 ..	2½
3000	Bolanos	150 ..	6½
2000	Ditto Scrip	15 ..	6½
12000	Brazilian Imperial	20 ..	4½–3½
10000	Cobre Copper Co.	40 ..	25½
8500	Colombian Co. regis.	55 }	4½
5000	Ditto Scrip	5½ }	
5000	Coplapo Mining Co.	14 ..	3½
10000	General Mining Ass'n.	20 ..	15½
5000	Kinzigthal Mining Ass.	2 ..	3
20051	Mexican Company	59 ..	—
2000	Mexican & South Amer.	7 ..	3
5000	Mocaubas & Cocaes	25 ..	4½–5
29320	{ Rl. del Monte, regis.	28½ ..	av. 3½
	{ Ditto unregistered		
	Ditto Red Debentures	— ..	20
	Ditto Black ditto	— ..	14
	Ditto Loan Notes	150 ..	97½
7000	Royal Santiago	10 ..	5
2000	Pachuca Mines	4 ..	4½
11000	St. John del Rey	15 ..	7
43174	United Mexican	28½ ..	2½–2

SOUTH AUSTRALIA AND NEW ZEALAND.

00000	North British Australasian (Kaw-aw, &c.)	1 ..	1½

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£21½ 22
20,000	British North American	50	5	44 45
20,000	Colonial	25	5	15½ 16
—	Commercial of London	20	6	22 23
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	16
30,000	London and Westminster	20	6	26½ 26¾
10,000	National Provincial of England	35	5	36½ 38½
20,000	National of Ireland	22½	5	20½ 21
20,000	Provincial of Ireland	25	8	45½ 46
4,000	Ditto New	10	8	16
20,000	Union of Australia	25	6	23½ 24
10,000	Ditto New	2½	6	2½ 2½
60,000	Union of London	16	5	13 13½

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending June 19, was 15,202; amount of money, £63 6*s.* 10*d.*

Blackwall Extension Railway.—The proposed connection between the above line and the Eastern Counties' is begun in the most energetic manner. We understand the first stone (or, rather, brick) was laid on Tuesday last, at the Stepney end of the viaduct. The event was celebrated by a dinner-party, at the Brunswick Tavern, Blackwall; Mr. H. P. Burt (in the absence of Thomas Brassey, Esq.) presiding. Knowing the great energy of Mr. Locke, the vast means of Mr. Brassey, and the talent and energy of his agents, we think this important link in the convenience of the metropolitan lines, will be carried on and completed with great spirit.—*Railway Record.*

We hear that the original allottees of the London, Cheltenham, and Oxford, are likely to receive back the whole of their deposits, and that it is intended to apply for the line between Tring and Oxford, in the ensuing session.—*Railway Chronicle.*

COPPER ORES

Sampled June 9, and Sold at Farquharson's Hotel, Truro, June 24, 1847.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
United Mines	117	£5 2 0	Par Consols	94	£8 18 6
ditto	113	2 17 0	ditto	76	5 3 0
ditto	107	3 18 0	ditto	75	9 10 0
ditto	102	4 12 6	ditto	70	5 3 6
ditto	101	3 3 0	Tresavean	75	4 9 6
ditto	99	5 1 0	ditto	74	5 6 6
ditto	93	2 19 0	ditto	73	4 0 6
ditto	90	3 9 0	ditto	49	7 11 6
ditto	83	6 0 6	Treleigh Consols	68	15 5 0
ditto	74	4 10 6	ditto	68	4 19 6
ditto	68	4 12 6	ditto	47	7 14 6
ditto	65	3 19 6	ditto	43	4 4 6
ditto	52	5 14 0	West Wh. Jewel	66	4 10 6
ditto	44	2 5 0	ditto	58	3 19 6
ditto	38	3 18 6	ditto	53	3 5 6
ditto	33	4 19 0	West Trethellan	51	3 7 0
South Caradon	105	7 6 0	ditto	31	2 9 0
ditto	103	5 5 6	Charlestown United	55	17 3 0
ditto	67	6 18 0	South Tolgus	37	4 16 6
ditto	54	5 3 0	East Relistian	26	5 6 6
ditto	31	4 11 0	North Downs	18	6 15 6
			East Downs	11	5 17 0

TOTAL PRODUCE.

United Mines	1279	£5333 1 0	West Trethellan	82	£246 16 0
South Caradon	359	2186 0 0	Charlestown United	55	943 5 0
Par Consols	315	2306 19 6	South Tolgus	37	178 10 6
Tresavean	265	1349 4 6	East Relistian	26	138 9 0
Treleigh Consols	246	2313 1 0	North Downs	13	88 1 6
West Wh. Jewel	177	702 15 6	East Downs	11	64 7 0

Average Standard ..... £106 8 0 | Average Produce 7¾
Average Price per ton £5 10 0
Quantity of Ore ..... 2865 tons. | Quantity of Fine Copper, 223 tons 0 cwts.
Amount of Money £15,850 10 6
LAST SALE.—Average Standard ..... £ 96 16 0.—Average Produce 9½

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	228	£1022 7 3
English Copper	381	2337 2 3
Vivian and Sons	491	3149 11 6
Freeman and Co.	298	1542 13 6
Grenfell and Sons	456	2255 18 9
Sims, Willyams, and Co.	440	1980 2 0
Williams, Foster, and Co.	568	3572 15 3
Total tons	2865	£15,850 10 6

Copper ores for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcels.—North Roskear 990—Consolidated Mines 609—Tincroft 389—Fowey Consols 376—Wheal Seton 264—South Wheal Francis 170—Creeg Braws 162—South Roskear 105—Wheal Brewer 104—Wheal Bucketts 103—Lanivet Consols 98 Wheal Harriet 74—Tretoil 10—West Grambler 7.—Total, 3461 tons.

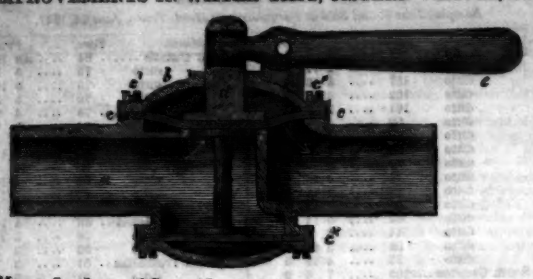
Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea Mines 830—Alfred Consols 331—Wheal Prosper 309—United Hills 308—Par Consols 256—Levant 154—Wheal Agar 64—Botallack 36—North Wheal Basset 34—Cook's Kitchen 17—Wheal Ruby 17—Gwinear Consols 16—West Tolgus 11—Wheal Maud 3.—Total, 2386 tons.

COPPER ORES.

Sampled June 3, and Sold at Swansea, June 24, 1847.

Mines.	Tons.	Prod.	Stand.	Price.
Cobre	102

IMPROVEMENTS IN WATER TAPS, CISTERN VALVES, &c.



Messrs. Lambert and Son, of Lambeth, have succeeded in constructing a new description of tap, which is not only far more safe, but can be constructed at less cost than the common description of cocks. This is effected by a novel and ingenious application of two flexible diaphragms—the upper of which, being acted upon by the lower, is pulled down on its seat, and forms a perfectly leakless joint. The above engraving represents a longitudinal section of a tap for ordinary purposes as closed—*a*, is the barrel; *b*, the cover; *c* and *cx* are two flexible diaphragms of vulcanised caoutchouc, fastened by screws as represented; the top one is acted on by the spindle and disc *d*, moved by the lever *e*; the lower diaphragm forms a surface to be pressed upon by the column of water above the tap, which pressure, by means of the upright spindle connecting it with *d*, pulls down the upper diaphragm, and forms a perfect valve and stuffing-box, whereby the escape of the liquid is entirely prevented. The arrows indicate the course of the liquid; and the pressure may be regulated by adapting the areas of the two to the degree of tightness required, it being in proportion as the bottom one exceeds the top in area. It will be observed, that its motion is almost void of friction; and we consider it a beautiful application, which must in time entirely supersede the old form of tap. They are being made of all sizes, for the purposes of drawing water; and, for ball cocks or cistern valves, they are well adapted—opening the full area upon the least descent of the ball, and are not liable to be set fast.

NEW PATENTS.

S. Keeling, Hanley, Stafford, for an improved method of making candlesticks.

J. Murdock, Staples-inn, Middlesex, patent-agent, for an improved mode of manufacturing woven goods, figured on both sides.

F. H. Bickes, Mayence, on the Rhine, and M. Henry, Colonial-chambers, Crutched-friars, for certain improvements in treating, manuring, or preparing corn, seeds, plants, and trees, and in fertilising land.

W. Vickers, Sheffield, for improvements in the manufacture of iron.

T. R. Crampton, Adam-street, Adelphi, for improvements in locomotive engines.

J. O. N. Rutter, Brighton, gas-engineer, for certain improved methods of, or apparatus for, conveying intelligence.

J. Mackintosh, Bedford-square, Middlesex, for improvements in engines to be worked by steam or other suitable fluid, and improvements in propelling carriages and vessels.

J. Soutter, and W. F. Hammond, Spread Eagle Works, Limehouse, engineers, for certain improvements in the steam-engine, and in machinery for propelling.

H. Mapple, W. Brown, and J. L. Mapple, Chil's-hill, Hendon, for improvements in communicating intelligence by means of electricity, and in apparatus relating thereto, part of which improvements are also applicable to other like purposes.

J. R. Watson, Pentonville, Middlesex, for an instrument for registering angles at sea.

J. Robertson, Great Howard-street, Liverpool, for improvements in the manufacture of casks and other wooden vessels, and in machinery for cutting wood for that and other purposes.—*Mechanics' Magazine.*

ACCIDENTS.

Ballewidden Mine.—G. Borlase, jun., was buried under a mass of ground while working in the 70 fm. level.—N. Ellis had a narrow escape from losing his life, while working here—a stone, 7 lbs. weight, fell from a height of 50 fms., took off the boy's hat, struck his shoulder, and tore the flesh down to his elbow.

Felling Main Colliery, near Gateshead.—An explosion occurred here on Wednesday last, by which four men, two boys, 18 horses, and two ponies, were killed. There were 14 men and boys in the pit at the time of the accident—eight of whom were got out alive: two ponies also escaped. The cause of the accident has not been discovered.

Lochoford Colliery.—While a miner, named Booth, was working in the pit, the gas ignited, and he was immediately enveloped in flames.

A Colliery on Fire—Five Horses Killed.—On Wednesday last, it was discovered that a pit on the Oldbury road, known as the Slades Pit, and belonging to the trustees of the late Mr. Horton, was on fire. Some of the men on going to "fettle" the horses, previous to commencing work, found the flames issuing from the mouth of the pit in large volumes, and they had evidently been so for some time, as the wood-work about the pit-head was much burned. There had been five horses left in the pit on the previous night, as usual; but as it was evidently useless to attempt to rescue them, it was determined to leave them to their fate, and endeavour to extinguish the flames by closing up the pit. This was accordingly done, but we have not been able to ascertain whether the means used for that purpose have been successful; at all events, however, it must be a considerable time before the workings can be resumed with perfect safety to those employed in it.—*Birmingham Journal.*

Oldbury.—R. Mason was killed while working in Mr. Robins's ironstone pit.

Ystalyfera Iron-Works.—As a party of men were engaged raising a large pipe to the top of a furnace, it turned round and struck a fitter-up, named D. Davies, a tremendous blow upon his head. His wound having been dressed, he was conveyed home, where he now remains in a very precarious state, very little hopes being entertained of his recovery.—A second accident occurred here to the son of R. Argust, a collier, who had one of his ears and part of his face bitten away by one of the horses, while he was working in the pit, at Trebullfa level.—A third accident happened to J. Davies, who, while working in one of the patches, fell from a high bank, fracturing his leg and head, from the effects of which he died.

Melancholy Pit Accident.—Three miners, named Brown, Merry, and Nelson, descended No. 4 pit Drumpellar, for the purpose of commencing the operations of the day. Merry, who had charge of the Davy lamp and of the pit workings, on reaching the bottom, ordered Nelson to proceed in one direction, which he considered clear and safe, while he explored a different line; Nelson had not proceeded far from where Brown was seated, when a tremendous explosion took place, bringing down roof and sides of a portion of the pit in its ravages—Brown was killed, while Merry and Nelson escaped with several contusions and burnings; Merry's ordering Nelson to advance in a doubtful direction, before being tested by the Davy lamp, was the cause of the accident.—*Airdrie Lum.*

Shropshire Union Canal and Railway.—On Tuesday last the directors gave an elegant dinner at the Clarendon, to the Right. Hon. the Earl of Powis, K.G., the chairman of the company, and at the same time preferred a unanimous request that his lordship would sit for his portrait, with a view to its being placed in the board-room of the company—a request to which the noble earl kindly consented.—Mr. J. P. Westhead, of Lea Castle, presided.—Mr. George Holyoake occupied the vice-chair; and Lord Clive, M.P., the Hon. Col. Anson, M.P., Sir F. H. Goodricke, W. H. Gregory, Esq., M.P., George Stephenson, Esq., Robert Stephenson, Esq., &c., were of the party.

Amalgamation of Wrought-Iron, Cast-Iron, and Steel, to Prepare them for Fine Gilding.—Place in a glazed earthenware, or porcelain, vessel 12 parts, by weight, of mercury, 1 of zinc, 2 of sulphate of iron, 12 of water, and 1½ of hydrochloric acid, of 1·2 sp. gr.; then introduce the iron, or steel, into the mixture, which is to be heated to ebullition. In a little time the objects become covered with a thin coating of mercury, which enables us to apply immediately the amalgam of gold used in the gilding. All now necessary is to apply a strong heat, which will drive off the mercury, and the trace of zinc that may have attached itself to the iron, leaving a surface of pure gold. By the ordinary way, it becomes necessary to cover the iron first with a coat of copper.—R. Boettger: *Preygond. Ann.*, 1846.

Distance of the Earth from the Sun.—Taking the semi-major axis of the earth's orbit to be equal to 95,000,000 miles, in the year 1847, the greatest distance of the earth from the sun will be 96,590,000 miles, and its least distance 93,408,000 miles. The greatest distance will be, on July 2, 22 h. 39 m. astronomic time; or civil time, on July 4, at 10 h 39 m. A.M., Greenwich mean time; and the least distance will be, on December 30, 22 h. 27 m. astronomic time, or civil time, December 31, at 10 h. 27 m. A.M. The mean elongation of the earth from the sun took place on the forenoon of April 2, civil time, and will again take place on the forenoon of October 2, civil time.—*Liverpool Mercury.*

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of May is 29—the quantity of coals consumed being 2400 tons, lifting, in the aggregate, 23,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 52,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal. The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch. on pist.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush. coal	Average quantity of water per min.
Wh. Prosper..	Roberts's 70-in.	9·75	89,122	16·1	5·5	2544	53·7	658
Great Work..	Leeds's 60-inch	9·0	47,020	12·9	8·5	2035	53·8	262
North Roskear	New 70-inch.	10·0	59,153	12·2	4·7	1560	58·2	229
East W. Crofty	Trevenson's 80	10·33	84,779	12·6	3·5	1726	54·8	198
Poldice	Sims's 85-in.	10·0	75,465	9·3	9·1	3464	56·5	646
Ting-Tang	Sims's 60, 100 in. combined	9·0	49,092	16·9	5·1	1464	61·1	339
United Mines	Taylor's 85-in.	11·3	97,108	15·5	6·4	2868	68·0	—
Ditto	Cardoza's 90-in.	9·0	99,468	12·7	7·2	2676	62·1	—
Ditto	Eldon's 30-inch	9·0	13,631	16·0	9·6	483	74·0	—
Ditto	Hocking's 85-in	10·0	100,355	14·3	7·0	4064	59·3	—
United Hills..	Williams's 80-in	10·0	73,988	11·7	9·8	3332	52·1	681
East Wh. Rose	Penrose's 70 in.	10·0	50,907	11·3	4·0	1564	60·2	698
Ditto	Bickell's 70 in.	10·0	55,505	12·0	5·4	2120	66·6	
Wh. Mary Con.	—— 63 in.	9·05	38,433	9·1	4·7	1672	56·4	198

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

Also, to avoid trouble, Post-Office Orders should always be made payable to William Salmon Mansell, as acting for the proprietors.

"The case may be hard on Ricketts, Enthoven, and Co. (the bankers), but we should have thought more prudence and caution would have been exercised by the resident partner, Mr. E. Turner, M.P., than to have allowed advances, to so great an amount, to have been made, without any communication with the principals."

7, *Victoria-square, June*, 28, 1847.

Mr. Turner begs to call the attention of the Editor of the *Mining Journal* to that part of the leading article in his paper of Saturday, the 19th of June, extracted above. Mr. Turner is sure that the Editor could not have made any diligent inquiry as to the facts before he wrote that article, and accused Mr. Turner in it of "want of prudence and caution" in the management of the affairs of the bank of Ricketts and Co., at Truro. The truth is, that no account was ever opened at the Truro bank, either by Mr. Robinson, or for the Wheal Providence adventurers; and Mr. Turner, therefore, could have no control over any advances that might have been made elsewhere.

"B." (Glasgow).—The Gun-Cotton is not intended to supersede the Safety-Fuse—on the contrary, the patentees expressly recommend its use, as an auxiliary to their gun-cotton. An advertisement appears in another column, and further particulars can be obtained on application to Messrs. John Hall and Son, Lombard-street.

"A Looker-on and Subscriber."—The proceedings are decidedly irregular, and, we think, illegal. If a plain statement of facts be forwarded us, we will give them insertion, and which, perhaps, may prevent the parties proceeding further in the matter: however, the course intended to be pursued is judicious, and the most likely to prevent "sharp practice," should it be contemplated.

"B." (Neath).—Address a communication to the secretary, who will submit it to the directors: the office is in Cornhill.

Dr. Clanny's Safety Lamp.—In Dr. Clanny's communication, in last week's Journal, line 36 from top, *for* "as he took me," *read* "as I took him;" in 4th line from end, *dele* "of the said collieries;" and, in next line, *for* "of those collieries," *read* "of the collieries, or by my safety lamp manufacturers."—We believe we shall have a statement respecting Dr. Clanny's Safety Lamp, to publish, in a week or two: the insertion of the letter of "Veritas" is not, therefore, requisite.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all the news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JUNE 26, 1847.

According to our usual practice, we now lay before our readers the return of copper ores sold in Cornwall and at Swansea, for the quarter ended the 24th inst. The quantity of ore sold in Cornwall, at 11 ticketings, to the 17th inst. inclusive, was 34,875 tons, producing 204,662*l.* 4s. 6d., which will be found an increase over the same number of ticketings of the previous quarter (see *Mining Journal*, 3d of April) of 1683 tons, and 10,162*l.* 17s.—the amounts having been 33,192 tons, and 194,499*l.* 7s. 6d. An improvement in the produce and price has also taken place; and we are happy to see that a still further advance appears in the standard. For the quarter ending 25th March, the standard was 105*l.* 6s., on a produce of 8-$\frac{1}{10}$th, and price 5*l.* 18s. 8d. For that just ended, the standard is 106*l.* 7s., on a produce of 8¼, and average price 6*l.* This progressive state of improvement hardly bears out the gloomy forebodings of the protectionists, as to the ruin of our Cornish mines.

The above quantity of copper ore was purchased by the smelting companies as follows—viz.:

Mines Royal Company	Tons 3130	£11,546	5 8
English Copper Company	5180	28,963	7 8
Vivian and Sons	7592	41,891	14 7
Freeman and Co.	3818	19,832	17 1
Grenfell and Sons	4562	28,160	5 8
Crown Copper Company	369	2,186	19 3
Syms, Willyams, and Co.	4315	24,496	5 10
Williams, Foster, and Co.	6909	47,590	8 9
Total	Tons 34,875	£204,662	4 6

The total amount of foreign, Welsh, and Irish ores, sold at Swansea during the quarter, comprising five ticketings, to the 10th inst. inclusive, was 10,975 tons, producing 149,203*l.* 16s. 6d., being an increase over the previous quarter of 2125 tons, and 26,969*l.* 9s.—those returns being 8850 tons, and 122,234*l.* 7s. 6d. The following are the companies by whom the ores were purchased:—

English Copper Company	Tons 1343	£16,700	12 0
Freeman and Co.	657	9,655	12 9
Grenfell and Sons	1040	20,940	6 6
Sims, Willyams, and Co.	1888	24,251	11 9
Vivian and Sons	2816	32,200	11 6
Williams, Foster, and Co.	3231	45,445	7 3
Total	Tons 10,975	£149,203	16 6

The following is the produce of the principal foreign mines for the quarter:—Australia, 673 tons; money, 11,387*l.* 18s.; Cobre, 3654 tons—46,319*l.* 3s.; Cuba, 1647 tons—21,783*l.* 5s. 6d.; Chili, 799 tons—27,157*l.* 4s. 6d.; Copiapo, 435 tons—9790*l.* 18s.; and Santiago, 448 tons—7388*l.*

On Tuesday evening last, Mr. Muntz, in the House of Commons, brought forward his promised motion—"That the House resolve itself into a committee of customs, to consider the duties on the importation of copper ore (Act 5 & 6 Vic., c. 47), with a view to their reduction, or abolition." He read, from numerous documents, the quantities which, of late years, had been imported from Chili, and other places, showing that the operation of the duty was disadvantageous to the English manufacturer. Mr. Ewart seconded the motion, and declared the duty to be a prohibitory one; and if, by persevering in its retention, they allowed the foreign copper trade to leave the country, they would inevitably injure the total trade of the country. Lord Sandon ably supported the motion; he said, there was great peculiarity in this article of copper ore—for, while the principle of free trade had been adopted in regard to everything else, for this alone the principle of *protection* (?), as it was called, was still maintained. He clearly showed the folly and impoliey of taxing articles heavily, which could be manufactured elsewhere without any duty, and that this question affected the whole trade of the empire. The Chancellor of the Exchequer, on the motion being made, stated, that he could not, this session, afford the remission of the duty, although only 54,000*l.*; and, consequently, therefore, though the going into committee was negatived by a majority of 40, it must not be taken as the opinion of the House on the *merits* of the question; the whole nearly of the opponents supporting the Ministers, and treating it as a financial measure. The subject must be kept alive, and brought forward again next session, and we only trust it will not be too late. Some further remarks, with statistical returns, will be found in another column.

Museum of Irish Industry.—A circular has been extensively issued by Sir R. Kane, announcing the foundation, under the general direction of the Commissions of Woods and Forests, of an institution under the above title—the object being, to represent and exhibit materials for agricultural, mining, and manufacturing industry, contained in Ireland, and to elucidate the means by which those materials may be rendered available for the improvement of the country. It is proposed to establish a complete collection of the rocks, minerals, and ores of Ireland—the latter in every stage of metallurgic development, characteristic soils, and the natural manures; organic constituents of rocks; animals and plants; raw materials used in various manufactories; models of mining, manufacturing, and agricultural machinery; of nets, boats, and all fishing implements used in the fisheries of Ireland; a chemical department; and a department of records and documents of a descriptive character. Sir R. Kane has been appointed director of the museum; and in the circular he solicits the active co-operation of all classes, by forwarding specimens, models, or documents, which will in every case be deposited in the establishment, with the donor's name affixed. The advantages which must arise from such an institution, to the development of the industrial resources of Ireland, must be most extensive, tending to impress upon the mind of the inspector the extent of riches—mineral, agricultural, and commercial—with which Ireland abounds, and we trust it will meet with that encouragement and support, which so national an undertaking deserves.

GOVERNMENT INTERFERENCE IN MINES AND COLLIERIES.

We have before us the draft of a bill, to provide, by legislative enactment, for the better ventilation of mines and collieries, prepared and brought up by Mr. T. Duncombe, Mr. Bernal, and Mr. Aglionby. The preamble runs thus:—"Whereas it is necessary, for the better prevention of accidents in mines and collieries, that duly qualified persons should be appointed as inspectors of such mines and collieries; and, whereas the provisions relating to such inspectors, in an Act intituled, 'An Act to prohibit the Employment of Women and Girls in Mines and Collieries; to regulate the Employment of Boys; and to make other Provisions relating to Persons working therein' (5 and 6 Vic., c. 99), have been found to be insufficient, and it is expedient to amend them. Clause 1 gives power to the Crown to appoint three inspectors; to remove any inspector; and, in case of removal or death, to appoint successors.—2. Salaries of inspectors.—3. Duties—they are required to visit, enter, and examine every mine or colliery, within their respective districts, at least four times in every year, and at any time, and without notice; and examine, as to state of buildings, machinery, ventilation, lighting, &c.; may call any evidence they choose, and examine on oath; give notice to owner to alter any arrangement of such mine or colliery; and if the owner does not obey the same, he is liable to a penalty of 100*l.*—4. Sub-inspectors may be appointed by the Secretary of State.—6. An "Office of Inspectors of Mines and Collieries," to be established in London.—8. Owners of mines and collieries are to send notice of the description of their property, with map and plans of workings.—9. Notice to be given of all accidents causing bodily injury.—10. In case of such notice, sub-inspector and surgeon to examine the injured party.—11. Secretary of State may authorise action for damages on behalf of the injured party.—13. Notice of death, from accident, to be given to sub-inspector within 12 hours; and coroner to give two days' notice to sub-inspector before holding the inquest.—16. Actions may be commenced for compensation to survivors.—21. Wages not to be paid according to measurement, but according to actual weight raised to surface, under penalty of 10*l.*—22 and 23. Wages to be paid weekly, and to each person separately.—24. Certain notices are to be hung up in mines.—25 and 26. Inspectors to report.—27. One farthing per ton to be levied on all coal raised, for defraying the expenses incurred under this Act.—28. Commissioners of Stamps and Taxes to appoint officers, and other persons, necessary for collecting said duty.—29. Excess of such duty over expenditure to be applied to education of children of persons employed in mines.—Clauses 30 to 46 regulate the manner of proceeding against offenders under the Act, and the penalties to be enforced.—47. Enacts that there shall be no appeal, except in cases where the penalties exceed 5*l.*—49. Borough and county magistrates to act as justices; but no complaint to be heard before any justice who is an owner, or brother, son, or father, of an owner of the mine or colliery, in which the offence is set forth to have been committed.

Here, then, we have the second edition of Mr. Strutt's Railway Regulation Bill, which was so suddenly withdrawn, applied to Mines and Collieries, and brought in by the *liberal* Mr. Thomas Slingsby Duncombe, M.P. for the metropolitan borough of Finsbury. A more unconstitutional attempt to interfere with the rights of private property was, perhaps, never known, or even contemplated. We deprecated the principles of Mr. Strutt's bill referring to railways, which are, in a great measure, public property; and how much stronger will our remarks apply to such interference with collieries, which are strictly *private* property, and which ought to be held as sacred from the disgraceful inquisitorial interference proposed by the bill, as the management of any gentleman's freehold estate, or business of the private tradesman. The present owners of collieries purchased them with the understanding, that they were to manage them in the way which they thought most conducive to their own interests, and that of their workmen; and the passing so despotic an Act as the one under notice, would depreciate the market value of colliery property 50 per cent. Has Mr. Duncombe any inkling towards an inspectorship himself; or has he a friend or two in the *north*, whom he wishes to set down comfortably for life, through the pretty little bit of patronage which his bill would create? We call upon the Government not to give too easy credence to all that interested parties would say, as to the supposed working of this bill. We know that it would work most injuriously—in fact, while it would cause immense harm to the collieries, it would, with respect to the object in view, defeat itself; and we further know that, in the anxiety for place, there is a *viewer* or two now waiting in London for the promise of one of the situations to be created by the bill, and who, like the crows in search of a good meal, flew up to London the moment they smelt carrion.

We are aware of the defective state in which the ventilation of a majority of our coal mines are kept; and we have ever contended that some means should be adopted to render less dangerous the occupation of the collier. But we must have it in a milder and less dogmatic form; and, although from cupidity, absenteeism, and other circumstances, proper ventilation has been neglected, and those dreadful catastrophes happened which we have all had to deplore, we cannot consent, that the private concerns of individuals should be placed under meddling Government inspectors—nor the country saddled with the expense of another commission which, as far as present appearances can be judged from, looks very like an attempt at a job. A system of proper ventilation might be enforced, modified by local circumstances, without subjecting coalowners to the humiliating and disgraceful espionage recommended in Mr. Thomas Slingsby Duncombe's bill.

SURFACE INJURIES FROM MINING IN STAFFORDSHIRE.

Most important Case—Hilton v. the Earl of Granville.—This case, the particulars of which have been so long before the public, came on for trial on Monday last, in the Court of Queen's Bench, before Lord Denman, and the Judges Patteson, Coleridge, and Wightman, with a special jury. The question at issue was the amount of damage done to a portion of the town of Hanley, in Staffordshire, by the working of the ironstone, and coals below. Mr. Sergeant Talfourd, Mr. Godson, Mr. Stammers, and Mr. Browne, were retained for the plaintiff; and the Attorney-General, Sir F. Thesiger, Mr. Ellis, Mr. Peacock, and Mr. Gower, for the defendant. Mr. Browne having opened the pleadings, Mr. Sergeant Talfourd spoke for nearly two hours. The plaintiff was the proprietor of two small houses at Hanley, in the manor of Newcastle-under-Lyme, and had brought his action to recover damages for injury done to his property by the manner in which the defendant had thought proper to work his mines. The plaintiff was a poor man, and had died since the commencement of the action; he, however, represented a large interest. Until a certain mode of working was adopted beneath, these houses had stood in perfect security, for a long course of years; but progressive ruin had kept pace with progressive working. In 1841, 20 houses were damaged; in 1842, upwards of 60; and when the model (which stood on the floor of the court) was made, there were upwards of 160. The defendant's agents had not only driven the ironstone workings straight ahead, without leaving the slightest support, but had even taken away the pillars left by former workers for coals. The learned Sergeant most eloquently described the consequences likely to ensue if a stop was not put to this reckless mode of mining; which he compared to the destructive effects of an earthquake. Twenty-one witnesses were called, to prove the damage done to the houses in Wood-street, Union-street, and Queen-street, Hanley; and Mr. Baguley, ground bailiff to Ralph Sneyd, Esq., a large coal proprietor, adjoining Lord Granville's, and working the same veins, stated that the practice in that gentleman's mines, was to leave firm supports, and not to drive the workings under any buildings. It was all nonsense, he said, to pretend that the damage done at Hanley was not occasioned by the workings—nobody in the district doubted it; and he added, that if they took away all the ironstone, as they were going on, universal ruin would follow. If workings were brought within 80 yards of a building, they would damage it. Several elderly witnesses proved, that in cases of former damage done by Lord Granville's mines, when in the hands of the late Marquis of Salisbury, compensation had been made in money.

The Attorney-General, for the defendant, founded his defence on the fact, that the working of the mines was from time immemorial; the building of the houses only comparatively recent. He referred to various ancient documents, to prove that the wealth beneath the surface being the most valuable of the manor, it was not probable that a grant would be made to the owner of the surface, which would interfere with the efficient working of the mines.

Lord Denman, in summing up, told the jury, the first question for their consideration was, whether the damage to the houses had been inflicted by the working of the defendant's mines. The second, whether the defendant had a right to the foundations of the houses of the plaintiff, and thus leave them, whenever he chose, without support. The third, whether defendant was entitled, from immemorial right, to work under or near the plaintiff's buildings, without making compensation for any injury which might ensue. The fourth was, whether there had been enjoyment of this right for 40 years; and the fifth, whether for 20 years.

The jury retired for an hour, and then found a verdict for the plaintiff on the two first issues—damages, 30*l.*; and for the defendant on the remainder—subject to exceptions by both parties, and a motion on the inconsistency of the finding on the first and second pleas, as compared with the third.

Improvements in the Manufacture of Iron.—In our Journal of the 29th May, we announced that a patent had been secured by R. J. Blewitt, M.P., of Llantarnam Abbey, Monmouthshire, for "certain improvements in the manufacture of malleable iron;" these improvements, we understand, consist principally in the substitution for the refinery furnace of a new, more simple, and less expensive process—by means of which, refined iron, or metal, is produced, of a very superior quality, particularly adapted, by its remarkable ductility, for the making of boiler plates, sheets, hoops, &c. We hope, in the course of a week or two, to give a detailed description of Mr. Blewitt's invention.

THE METAL TRADE—ANNUAL RETURNS.

We have received the usual annual Parliamentary returns of the imports and exports of copper, tin, zinc, lead, and lead ore, for the year ending the 5th January, 1847, from which it appears that the total quantity of copper ore imported into England during the year has been—51,623½ tons; unwrought copper, 466½ tons; old (fit only for remanufacture), 66 tons; part wrought, bars, rods, and ingots, 134 tons; plates and coins, 2 tons; manufactured copper by weight, 49 tons; by value, 4770*l.* 9s. 7d. Of the above 51,623½ tons of copper ore imported, there were from Italy, 576 tons; South Australia, 3303 tons; New South Wales, 720 tons; Cuba, 31,766 tons; United States, 166 tons; Chili, 13,565 tons; Peru, 1328 tons; and the remainder from various places. Of this quantity, 50,994 tons were retained for home consumption. Of the 4770*l.* 9s. 7d. entered by value, 4595*l.* 2s. 7d. was entered in the port of London alone; from Holland, 1083*l.* 17s.; France, 3059*l.* 2s. 7d.; Hanseatic Towns, 402*l.* 4s.; and 4284*l.* 9s. 7d. worth was retained for home consumption.

British Copper.—The quantity of British copper exported during the year has been 15,717¼ tons; from the port of London, 6197½ tons; Bristol, 220 tons; Swansea, 4019½ tons; Liverpool, 4360 tons; Hull, 295 tons; and the remainder from various small ports. Of these exports from England, France took 4536 tons; East Indies, 3893½ tons; United States, 2171 tons; Italy, 678½ tons; Belgium, 680 tons; Germany, 696 tons; Holland, 415 tons; Brazils, 354 tons; British West Indies, 237¼ tons; British North America, 257½ tons; and foreign West Indies, 253 tons. The total of foreign copper exported was to the value of 536*l.*—being 466*l.* from London, and 70*l.* from Liverpool. The total quantity of British copper exported from the port of London alone was 6197½ tons—of which 140 tons went to Russia; 423 tons to Germany; to Holland, 274 tons; Belgium, 659½ tons; France, 114 tons; Italy, 405 tons; East Indies, 2778 tons; Australia, 147 tons; British West Indies, 136 tons; United States, 188 tons; and Brazils, 247 tons. From the port of Liverpool alone there were exported 4360 tons, of which there went to France, 179½ tons; Italy, 120 tons; East Indies, 1090¾ tons; Canada, 150 tons; foreign West Indies, 223½ tons; United States, 1894 tons; and Brazil, 194 tons. The total quantity of foreign ore imported, on which duty had been paid, was 50,944½ tons—of which 19,126½ tons contained not more than 15 per cent. of copper, paying 3*l.* 3s. per ton, and realised 7135*l.* 18s. 5d.—6121½ tons, contained not more than 20 per cent. of copper, paid 4*l.* 14s. 6d. per ton, realising 4989*l.* 12s. 7d.; and 21,943¾ tons contained more than 20 per cent. of copper, paid 6*l.* 6s. per ton, and realised 41,066*l.* 11s. 11d. The total amount of duty on foreign copper ore received in the English Treasury thus being 54,056*l.* 1s.

Tin.—The quantity of foreign tin imported was 1015½ tons, of which 158½ tons were from Holland; 198½ tons from East Indies; 517½ tons from Singapore; 48 tons from Java; and 87 tons from China. The total amount of duty was 2427*l.* 5s. Of this quantity of foreign tin, 387 tons were retained for home consumption; and there was exported to Russia, 134½ tons; Prussia, 50½ tons; Germany, 43½ tons; Holland, 82 tons; Belgium, 66 tons; France, 11 tons; Italy, 238 tons; and United States, 421 tons. The quantity of British tin exported was 1195 tons—of which Russia took 189¾ tons; Prussia, 10 tons; Germany, 42¾ tons; Holland, 53 tons; France, 422 tons; Portugal, Azores, and Madeira, 15½ tons; Spain and Canaries, 50 tons; Italy, 49½ tons; Greece, 29 tons; Turkey, 179 tons; Syria and Palestine, 15 tons; Canada, &c., 23 tons; foreign West Indies, 10½ tons; United States, 14½ tons; Brazils, 34¾ tons.

Zinc.—The quantity of zinc, or spelter, and *lapis calaminaris* imported was 7245½ tons of the former; from Prussia, 3653 tons; Germany, 3178 tons; Belgium, 383½ tons, &c.—and of the latter, 150 tons from Holland; of which quantity, 4784 tons were exported, of which 52¾ tons went to Russia; 187 tons to Italy; 107½ to the Cape; 4300 to the East Indies; 125 tons to the United States, &c. The quantity of British zinc exported was 1212¾ tons—of which 25 tons went to Holland; 9 tons to the Channel Islands; 12 tons to Italy; 19½ tons to Africa; 11 tons to the Cape; 663 tons to British East Indies; 11 tons to Australia; 22½ tons to Canada, &c.; 26 tons to British West Indies; and 586 tons to United States.

Lead and Lead Ores.—The quantity of pig and sheet lead imported was 7862½ tons; lead ore, 724 tons; and white lead, 12½ tons. Of the pig and sheet lead, 4700 tons were exported—of which Russia took 1419 tons; Prussia, 266 tons; Germany, 97 tons; Holland, 1603 tons; Belgium, 720 tons; France, 525 tons, &c. Of British lead and lead ores there had been exported—pig and sheet, 6421¾ tons; shot, 1073 tons; litharge, 349 tons; red lead, 812 tons; and white lead, 1437 tons. Of these quantities, Russia took 1775 tons of pig and sheet; 12 tons shot; 72½ tons litharge; and 7 tons white lead. Prussia, 139 tons pig and sheet; 2½ tons shot; 21½ tons litharge; 23½ tons of red lead; and 6½ tons white. Germany, 304¾ tons of pig and sheet; 57½ tons of shot; 56 tons litharge; 136½ tons red lead; and 76¾ tons white. Holland, 502¾ tons pig and sheet; 4 tons shot; 18½ tons litharge; 206 tons red lead; and 24 tons white. Belgium, 198 tons pig and sheet; 47 tons of litharge; 81¼ tons red lead; and 12½ tons white. Channel Islands, 165 tons pig and sheet; 9½ tons shot; and 41 tons white lead. France, 1004 tons pig and sheet; 5¼ tons litharge; 6 tons red lead; and 1 ton of white. Cape of Good Hope, 189¾ tons pig and sheet; 49 tons shot; 6½ tons red lead; and 35 tons white. Mauritius, 108 tons pig and sheet; 15½ tons shot; and 24¾ tons white lead. East Indies, 676 tons pig and sheet; 83 tons shot; 123½ red lead; and 174¾ tons white. Australia, 276½ tons pig and sheet; 67½ tons shot; 7 tons red lead; and 81 tons white. Canada, &c., 162 tons pig and sheet; 266 tons shot; 29¾ tons red lead; and 138½ tons white. British West Indies, 280¾ tons pig and sheet; 69 tons shot; 4 tons red lead; and 113 tons white; and Brazil, 130½ tons pig and sheet; 261 tons shot; 5½ tons litharge; 26½ tons red lead; and 186½ tons white.

"There are none so blind as those who *will not see*;" and although we are convinced that quite enough of facts have been brought forward to show the evil effects of the operation of the duty on copper ore, and to stimulate to every exertion for its repeal, those who are aware of the existing danger to our copper trade, perfectly aware that laying ever such glaring facts before the bigots of protection, is but casting pearls before swine, and without intending to enter at any length into the subject again, we cannot help drawing attention to some important points in the above details, which strike most forcibly that there is in existence a depreciating cause to the health and vigour of our commerce; and that that depreciating cause may, in great part, be found in the operation of the duty on foreign copper ores. We have, since 1842, been complaining of a gradual decrease in our copper sales and exports; and the results of the year ending 5th January, 1846, gives us no very great reason to expect a re-action under existing circumstances, or hope for future amendment. On reference to the return for the year ending January 5, 1846, it will be found that we imported of foreign copper ore, 56,697 tons; for 1846, as above, it was 51,623 tons—being a falling off of 10 per cent.—notwithstanding there has been an increase from that new fountain of supply, South Australia, of 2194 tons, or three times the quantity imported in the previous year. The quantity of *British copper exported*, is still less cheering; in the year ending January 5, 1846, it was 18,039 tons; for 1846, as above, 15,717 tons—showing a decrease of 2322 tons, or 12¾ per cent. The principal part of this decrease in the exports arises from those to France having declined from 6250 tons to 4536 tons, as above; and East Indies, 4722 tons to 3893 tons—other countries not having much varied. It is not a little singular, that the enormous decrease in our exports of metallic copper, should be *France* and the *East Indies*—the very two markets in which it might be expected, that competition, on the part of successful rivals, would be first and most severely felt. With these facts before us, we earnestly call upon the advocates for the repeal of the obnoxious duty, to still more strenuous exertions; the Protectionists are in the field, and, though silently, are arduously moving heaven and earth to avert to as distant a day as possible the (to them) dreaded repeal. Should the continuance of the tax be persevered in for two years more, we fear an extraordinary and deplorable change will have taken place in this staple trade of England; and, like the results of delay and procrastination by Ministers in other questions of legislation, prove, when too late, how useless it is to "lock the stable door after the steed has been stolen."

Anthracite Pig-Iron.—At the present time, when the demand for iron is weekly increasing to a perfectly astonishing extent, and when so many of our noblest structures depend for their stability upon the quality of the metal of which they are composed, we call attention to the patent taken out by Messrs. Dixon and Budd, of the Ystalyfera Iron-Works, for a new method of heating the air from the blast-furnace, without coal, labour, or repairs. The heating stoves through which the air pipes pass, are built adjoining the furnace, and the flame of the furnace itself is drawn through the stoves, and the air thereby heated, without any expense of labour, coal, or repairs. At the Ystalyfera Works, these stoves were put into operation in Oct., 1844, and are still at work and in good repair. The anthracite pig-iron made at the Ystalyfera Iron-Works is of the most superior quality, and is described by the late Mr. David Mushet, as exceeding in strength and deflective powers every other iron in the British Isles. Some further particulars will be found in our advertising columns.

The Cornwall Railway.—We have heard many enquiries respecting the progress of this line, and confess ourselves unable to supply any satisfactory report. Mr. R. Tripp, of Exeter, also, in his circular, follows in the same spirit, and says:—"It is high time that this company should make some progress. It would be for the interest of all parties concerned, if a beneficial lease of it could be entertained by any company enabled to carry out the objects of the undertaking."

Irish Railways.—A portion of the line constructing by the Great Southern and Western Company—between Dublin and Maryborough—will be opened for the conveyance of passengers and merchandise on Monday next; it is intended to run two trains daily from each terminus, and the journey will occupy under three hours.

THE SILVER AND GOLD MINES OF THE NEW WORLD.

SECOND PART.—ON THE FUTURE PROSPECTS OF THE MINES OF AMERICA, COMPARED WITH THOSE OF EUROPE.

1. *On the Effects caused by the Precious Metals of the New World.*

It is not without interest to endeavour to form an idea of the influence exercised by the flood of precious metals, which commenced, 300 years ago, to precipitate itself on the banks of Europe. We must recall to mind what those countries, now so brilliant by their arts and wealth, then were. They had scarcely begun to quit that hideous misery, in which nations had crouched since the catastrophe in which the Roman Empire perished. The continual wars between nation and nation, province and province, and fief and fief, and the endless extortions by which brutal chiefs exercised their domination in all the corners of what now forms the domain of advanced civilisation, had dried up all the sources of public welfare. Some towns, free and mercantile, had grown rich in Italy, in the Netherlands, and in Northern Germany. In the great states rare efforts were made, at distant intervals, to encourage production and protect labour—the creator of riches; but on almost all points barbarism attached itself to its prey, and obtained the upper hand. The precious metals, in particular, existed only in a very small quantity. It appears perfectly certain that the Greeks and Romans had considerable masses of them in circulation at the period of their greatest glory. Greece, with which I confound Macedonia, obtained a certain proportion of silver from mines situated on Hellenic soil, properly so called, and a great quantity of gold from her commercial relations with Asia, form the subsidies received from the kings of Persia, who had a well-filled treasury, from the working of some productive mines in Thracia, and principally from the conquests of Alexander, which placed the hoardings of the sovereigns of the East in her possession. The gold and silver accumulated by the kings of Persia alone amounted, according to M. Dureau de la Malle, to nearly *two milliards*. Rome, in becoming mistress of the world, emptied the coffers of kings, who had the habit of saving, as indeed the republic itself had also. Thus the spoils of Perseus, of Antiochus, of Mithridates, and, at a later period what remained to Alexander of the opulence of the Ptolemies, profited to the people-king. When the sovereigns of Europe and Western Asia were despoiled, Rome continued to draw to herself, in a thousand ways, all the gold and silver which already existed, or which was produced in the provinces, and which was brought in by the traders. There were regular tributes, which were paid into the imperial coffers, which were incessantly exhausted by gifts to the people, to the pretorians, or to the simple soldiers, and by the senseless luxury of the emperors. These were the exactions of the proconsuls, already noted for their rapacity in the time of the republic, who, after having satisfied their own avarice, brought their booty to the capital of the world, in order to live in the midst of luxury and magnificence. Mines of gold and silver, which were worked with success in the provinces, but little distant from Italy, particularly in Spain and the Gauls, added to what was drawn from Asia. This abundance of the precious metals is proved by the testimony of historians. It is still better proved by the changes which took place in the value of provisions. For example, in the time of Demosthenes, gold and silver, in the purchase of articles of the first necessity, were not worth more than one-fifth of what they were in the time of Solon. A similar circumstance may be remarked in Rome, on comparing the first ages of the republic with the time of the first Cæsars.

What occurred when the empire fell? The abundance of precious metals diminished, little by little, in Rome and in Italy. The tributes of the provinces became successively reduced. The greater part of the gold had come from the East; but opportunities no longer presented themselves for the capture of the treasures of the kings of Macedonia, Armenia, Egypt, and Pontus; and what could be transmitted from the provinces that touched the districts which yielded gold, became singularly lessened, and at last entirely ceased to make its way to Rome, when there was another empire, with Byzantium for its capital. The presents which the barbarians exacted caused gold to be taken away incessantly. The mines of Europe did not yield so much. The changes with the countries of spices and perfumes, to which there were no products to be sent, also caused a continual exportation of the precious metals. Lastly, when the barbarians spread over Italy, they pillaged it, and the masses of metals which were in circulation became scattered over a wider space. Instead of a single metropolis which absorbed all, there were a great number, an almost infinite number, of centres of power, which contended between one another for the wealth. As long as the violent drama of the invasion lasted, and during the centuries of disorder and slavery which succeeded it, those who had gold or silver hid it with care. A large quantity of these metals was buried by persons, anxious to put all they had valuable in a place of safety, and who subsequently carried their secrets with them to the tomb. This custom of burying objects of value perpetuated itself in all the crises of the middle ages, and it was adopted in France during the revolution. At the time of the emigration, for example, a vast number of precious articles must have been buried by people who calculated on soon refinding them—for all the *emigrés* flattered themselves on an almost immediate return—but who never came back at all. The West, which had only produced a small quantity of the precious metals compared with the East, yielded less and less; because in this chaos, under this reign of anarchy and brutality, all production slackened or ceased—the productive arts, in those barbarian times, confining themselves to requiring the earth to yield gross description of food. This effect must have made itself felt, particularly on such a branch of industry as that of mines, which requires a great deal of perseverance and foresight, with not less security, and which cannot succeed under a precarious order of things. The trade with eastern countries, to which Europe had nothing to send, less even than Rome in the time of her greatness, continued to take away a portion of the gold and silver which Europe preserved. The Crusades themselves caused a considerable exportation, none of which came back again. The piety of the faithful consecrated to churches and monasteries the precious metals, which it would frequently have been dangerous to keep for show, and which were thus withdrawn from circulation; but this part, at least, of metallic wealth was not lost, and more than once the summary proceedings of princes caused it to re-enter the current of exchanges. Pieces of money sustained a regular and continued loss, in passing from hand to hand, independently of being clipped. This loss is called *wear*, on which we will speak presently. By shipwrecks, and accidents of all sorts, there were lost small quantities, which, a thousand times repeated, formed masses. The quantity of precious metals possessed by society in general, and particularly that fraction thereof which bore a monetary form, and which was relatively much more important then than it would be now, consequently became gradually reduced. In the centuries which preceded the discovery of the New World, the monetary sign was very rare, and the value of the precious metals was enormous, in relation to the price of provisions. Thus, during a period of 237 years, terminated in 1509, when the influence of the precious metals brought from America could not yet have made itself felt, the quantity of gold and silver, struck off in England, represented an annual fabrication of 1886*l.* at the weight and standard of the present money; and from 1603 to 1829, this average was 819,415*l.*, or 122 times greater.* Mr. Jacob has calculated—starting, it is true, from a very uncertain estimate of the quantity of gold and silver which circulated under Vespasian, and estimating the annual loss according to a law which is not exaggerated—that the monetary specie in all Europe, at the end of the fifteenth century, was reduced to 34,000,000*l.* Regard being had to the relative value at that period of gold and silver, I should rather consider this estimate excessive.

It is not without utility to stop for a moment at this point. We cannot render an exact account of the loss sustained by money in circulation during a period of several centuries, even in the ordinary state of things, and abstraction made of the great political and social revolutions, the alarm created by which caused large amounts to be buried and never more see the day. There is first the wear, or, as we have said, the loss, which pieces of money sustain in passing from hand to hand by mechanical rubbing; and next what disappears in shipwrecks, or by the effect of other accidents. The wear seems capable of being estimated with some exactitude; but still the different attempts made to ascertain it do not accord with one another. On pieces of French money, of the decimal system, it would be annually, according to the careful experiments made in 1838, under the direction of the Administrative Committee, only 16 parts in 100,000, or 1 in 6250, which is a trifling diminution, but which in the long run becomes sensible. Other experiments, repeated at different periods at the Mint of London, on pieces which from their size are similar to those coined by the ancients, show that the diminution is much greater. Thus, on pieces of gold, which, however, resist more than those of silver, the loss amounts to 1 in 950; and on pieces of silver it is 1 in 200. For antiquity and the middle ages, Mr. Jacob, regarding as much as possible all known circumstances, has taken, in estimating the annual wear, the proportion of 1 in 360, and has maintained this basis in his estimates up to the commencement of the eighteenth century. If to this be added the loss caused by shipwrecks and daily accidents, we arrive at a proportion which is somewhat considerable. Mr. M'Culloch thinks that, including everything, an annual diminution of 1 per cent. should be calculated. If we start from this hypothesis, we shall find that 1,000,000,000 coined at the commencement of a century, would present at the end not more than 366,000,000, and after two centuries 134,000,000, and that after 500 years it would be reduced to the insignificant sum of 6,600,000. At this rate, it will be seen that, towards the end of the eleventh century, when the working of mines was pretty nearly abandoned, there did not remain in Europe any large quantity of the mass of specie, whatever it might have been, which the Roman Empire possessed.†

[*To be continued in next week's Mining Journal.*]

* *Jacob's Precious Metals*, 1 vol. chap. xiv. There is an omission in this account of a small quantity of gold, struck off from 1272 to 1347, which, however, in no case would carry the fabrication of the first period to 100th part of what was struck off in the second.

† If we suppose an annual loss one half less than that indicated by Mr. M'Culloch, or 1-200th per annum, we shall find that, after a century, 1,000,000,000 would be reduced to 995,000,000; after two centuries, to 365,000,000; after 500 years, to 81,000,000; and after 1000 years, to 6,600,000.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The past week has been one of the dullest that has passed for a long time in the mining world. There have been no meetings of companies—no bringing forward of new projects—no dwelling upon old ones—in a word, nothing new. We are now, in fact, at the dullest period of the mining year; and it is not improbable that the dearth of news—that bugbear of the letter writer—may continue for some weeks to come.

As I told you some weeks ago, there is not the slightest chance that anything will be done with the Customs Bill this year. The Committee of the Chamber of Deputies will, probably, not present its report before the very end of the session. It is playing the game of the ironmasters, by creating delay, every week that passes being so much gained to them. Even if the committee had already reported, there would not be time for the bill to pass in the present session.

The iron furnaces of La Risle, at Pont Audemer, in the department of the Eure (which were recently advertised for sale in the *Mining Journal*), have just received a supply of coal direct from Sunderland. A good deal of English coal is used in all the establishments of that neighbourhood, as well as at Rouen; but it is needless to say, that the duty on it considerably limits the consumption.

The report read at the recent meeting of the shareholders of the Marseilles and Avignon Railway, states, that of 30 locomotives that are required, 20 have been ordered of Mr. R. Stephenson, in England. It also states, that 100 kils. of rails are laid down, and that the rails, chairs, &c., for the principal line are at the disposition of the company. The works of the line are represented to be in a very advanced state. The expenses incurred in 1846 were 17,193,311 fr.—making, with those previously incurred, a total of 45,655,212 fr. A loan of 17,000,000 fr. was declared to be necessary to complete the line. In the expenses, rails figure for 3,268,283 fr.; chairs for 754,777 fr.; bolts, &c., 118,322 fr. The company has, besides, had to purchase for the workshops 122,378 fr. of iron, 8168 fr. of steel, 22,461 fr. of cast-iron. It has also purchased as *matériel*—rails, 484,152 fr.; chairs, 29,221 fr.; bolts, &c., 106,073 fr.; charges of way, 12,041 fr.; locomotives, 1,145,738 fr. It appears that the rails have been made of the weight of 33 kils. instead of 30 kils., as had been first proposed; and that each carriage is to have six wheels instead of four. The length of the line is 120 kilometres. From the figures that precede, you will be enabled to see what a large slice the iron monopoly takes out of the capital of a railway company. In England, or in Belgium, the cost of rails, &c., for a railway of the same length would have been nothing like what is here stated; and yet this Avignon line has neither received, nor paid for, all the iron and rails of which it has need.

The Chamber of Deputies has adopted, by an overwhelming majority, the proposition for a reduction of the duty on salt. It is almost certain, however, that the Chamber of Peers will reject it, as they have done before, they having the privilege which our House of Lords does not possess, of voting on the imposition of taxes—a privilege which they invariably employ as the Government may require, and in this case the Government is strongly opposed to all reduction. There are a great number of rock salt mines in France, but they are neither so extensive, nor of such good quality as ours. The reduction of the duty would not necessarily be followed by the free admission of foreign salt—it would only cause a reduction in the price at which salt is sold in France, and, therefore, it would not, I think, be of much importance to them.

The Madrid journals bring accounts of the recent adjudication of the products of the famous quicksilver mines of Almaden. As stated in my last, the Bank del Fomento obtained the concession, in conjunction with the Company of the Iris, and some capitalists, at 1731 reals per Spanish quintal. M. Castro, of the Iris Company, is now in London, on matters connected with the contract—so that it may perhaps be assumed that, though made in the name of a Spanish company, English capitalists have a certain interest in it. Your readers are, no doubt, aware that almost all the quicksilver that is used in the Mexican mines, is obtained from Almaden; and that the persons who can control the supply of that quicksilver, can exercise very great influence indeed over the price of Mexican silver. Not fewer than seven offers were made by different parties to obtain the contract. The prices offered were—1200 reals per quintal, 1660 reals, 1640 reals, and 1620. One of the offers was rejected, because it was not made in compliance with the published conditions; and the offer made by Messrs. Rothschild was rejected, because it did not specify any particular sum, but merely proposed to give 10 reals a quintal more than any other company or person. The Rothchilds, if I mistake not, held the contract which has just expired; and, if so, they must be deeply mortified at having failed to obtain a renewal of it. Their offer shows the importance which they attached to it. The sum contracted for by the Fomento Bank is 101 reals more than was obtained by the Goverment last time, and is 111 reals more than the lowest price it had declared it would accept.

The shareholders of the Montreux Coal Pits of Saint Etienne will hold a general meeting at Paris the 6th July. The meeting of those of the Touches Coal Pits has been adjourned to the 5th July. The shareholders of the Coal Pits of Blanzy are invited to present their shares to be stamped, and to receive *coupons* of the interest of the first quarter for shares, and of the second for obligations. The Bouquies and Fumel Coal Pit and Iron Company will pay the interest of the first quarter on July 1.

On 24th July, the Marine Department will receive offers for the supply of 600,000 kilogrammes of English coal to St. Servans.

The Municipal Council of St. Etienne seems bent on prosecuting the Compagnie Generale des Mines de la Loire, for having absorbed the greater part of the coal pits of the Loire basin. It has just decided that, notwithstanding the Council of the Prefecture of the department of the Loire has refused to authorise any prosecution, an appeal shall be made to the Council of State to sanction one. It has also resolved to protest that, even should the company consent to spht its concessions into two or three groups, as has been proposed, it would not be satisfied; and it has determined to be content with nothing less than the complete restoration, to the hands of their original holders, of all the concessions now held by the company. The Council demands far too much.—*Paris, Wednesday.*

Belgium.—The Coal Company of Bonne Esperance at Montiguy-sur-Sambre, in the province of Hainault, has received permission from the Government to maintain its concessions of coal pits over an extent of 72 hectares. A cylinder, containing 60,000 lbs. of metal, has just been cast in the establishment of M. Marcellis at La Bouverie, in the province of Liege. It is the largest ever made in Belgium, or, at least, in Liege.

Prices of iron and cast-iron have advanced. The iron establishments have no stocks on hand, but cannot accept all the orders they receive.

Railway Accommodation between London and Birmingham.—In the House of Lords, last evening, Lord Redesdale postponed his motion, directing an inquiry by the Railway Commissioners into the accommodation afforded by the several lines now open, and in course of construction, between these places; and in what manner the broad gauge can be extended to Birmingham, with the least interference with existing interests. We think, if his lordship would withdraw his motion altogether, it would be for the interest of all parties—the squabbles about the gauges, to the very great inconvenience of the public, brought about by Brunel's broad gauge whim, have been carried on quite long enough, and the sooner we hear no more about them the better.

Original Correspondence.

ON BLASTING WITH GUN-COTTON.

Sir,—Your Journal of last week contains a letter from a correspondent, at Merthyr Tydvil, on blasting with gun-cotton, to which, as the friend of the Chevalier Schönbein, I am desirous of offering a reply. It is well that new inventions should be severely tested, and Prof. Schönbein demands no more than "a fair field and no favour" for his wonderful discovery; and when we consider that gun-cotton is the most powerful explosive agent of a manageable character yet known, it is right it should be put to the most searching ordeal. I am prepared, however, to shield it from his attack, by showing that it possesses properties of which he thinks it devoid.

It is assumed by your correspondent that the gun-cotton explodes instantaneously, and reasons on it, as if such a property were essentially connected with it. I beg to call his attention to the following facts, which will at once show that such a belief is erroneous; and that it possesses a tractability in this respect superior to gunpowder. When the tubes were prepared in the first instance for blasting purposes, they were so, without any hollow, as is now the case, running from one end of the tube to the other; the cotton, moreover, was pressed extremely tight. On trial, it created great surprise that the cotton would not explode; and no inconsiderable dismay was occasioned by this occurrence. The hollow throughout the cotton was suggested and adopted; and the marvellous power of the new-born Titan displayed itself in the manner which even "D." himself finds it impossible to deny. I wish to recur to the cotton compressed in the tube with no hollow throughout it. I myself witnessed one of these tubes, set upright in a meadow, and ignited; instead of "instantaneous explosion," which "D." considers an unavoidable property in the cotton; it burnt without explosion, with a roaring noise, and bluish flame, from top to botton of the tube. It appears from this experiment, confirmed by many others elucidating the effect of compression on the substance, that compression gives to the cotton that tardiness in explosion, which "D." considers so desirable in compounds employed for blasting operations. This "Frankenstein" seems, then, to be not only controllable, but useless, by undue compression; and we may look forward, therefore, to experience teaching compression of it to that degree which shall fully meet the desideratum "D." represents as having hitherto been sought for in vain by means of powder.

I now turn to the consideration of that which "D." states, and very properly, "the grand and last view of it"—the safety of the workman in the use of it. The cotton is packed for blasting uses in tubes— and had this condition been observed, no accident could have occurred—but the hole in the experiment, where the accident happened, had not been prepared of a sufficiently large diameter to receive the tube, and the cotton had been removed from its case. Even, then, with common caution, all would have been well; but, during a period in the preparation, when the attention of the gentleman conducting the experiments had been called away from this case, violence of no ordinary character was employed in ramming the cotton down (not in stemming it when already placed) with an iron rammer—a process consented to with the greatest reluctance (from no wooden rammer being at hand), and only on condition that the greatest caution and gentleness in the use of it should be exercised. The violent blows of the iron rammer, no doubt elicited a spark by contact with the rock; and, falling on the unprotected cotton, exploded the charge. No one, I can testify, will feel more regret than Prof. Schönbein at this unfortunate occurrence; but it happened under conditions unfair to the cotton—and powder itself would not have been free from danger, as the following facts, which I undertake to prove, by an eye-witness (a tradesman who, at the period in question, was an overseer of some parts of the line to which I allude), will clearly show.

In the construction of the Paris and Rouen Railway, tunnels had to be driven through rocks of a nature requiring the use of gunpowder—English, as well as French, workmen were employed. A spirit of rivalry arose between the men of the two nations, and extended itself to those at work in tunnelling. Each party was eager to surpass the other in the quantity of work done; and, although *copper* rammers had been provided to prevent explosions of the powder, the men, in their haste, became reckless, and seized the first rammer near them, whether of copper or iron; the consequences were that, by the incautious use of the iron rammers, numbers of the men of both nations perished by the explosions of the powder. I would remark, that had cotton in tubes been in use on those works, it would have been a matter of indifference, whether copper or iron were used; for, protected by the tube, the cotton *cannot* explode. May we not say, then, that the cotton, under these conditions, *does* offer greater security to the workman? But whether in tubes or not, it will lay no train leading to explosion, by escaping from the hands of the workmen, as powder does. In conclusion, I would advert to a subject connected with the gun-cotton, to which "D." has made no allusion; but which, no doubt, sooner or later, will be brought against it by its opponents—*i. e.*, spontaneous ignition. The silence hitherto observed, has arisen probably from the matter being one in which scientific men alone are capable of given an opinion; and it is at least up to the present time in favour of the cotton, that of all those chemists, who have turned their attention to it, and effected the analysis of it, not one has stated that there is any probability of such an occurrence. The reasons are obvious; to them it is perfectly well known, that the union of one of the constituent parts of the cotton with nitric acid, has been so intimate, that the cotton, so far, has become an entirely new substance (this is the opinion of the great Berzelius respecting it); and to judge by analogy, has probably become as much removed from any tendency to spontaneous ignition as phosphorus—so highly inflammable—is when a constituent in human bones. When, therefore, we remember that damp exercises no injurious nor dangerous effects on it, as proved by numberless experiments, and that a dry atmosphere is as suitable for it as for any other chemical salt, and then add the protection it enjoys being enclosed in tubes—forming as they do a complete barrier to any foreign matters—I think we may confidently assert, that it will be found not only an agent superior in power, as it incontestably is to gunpowder, but a safer "compound in the workman's hands." I desire to believe, that "D." advances his last statement respecting deaths having resulted from the use of the cotton in ignorance of this truth—viz.: that no loss of life has yet occurred from the employment of it.—The Legal Representative in England of the Chevalier Schönbein: *June* 23.

ON BLASTING WITH GUN-COTTON.

Sir,—Like your correspondent of Merthyr Tydvil, I have read with considerable interest the account of blasting experiments with gun-cotton in Wales. The success has been such as I anticipated, from experiments I conducted in the millstone grit of Yorkshire; and I have no doubt that, when the manufacture and application are well understood and economically conducted, it will, from its numerous advantages, universally supersede gunpowder in blasting operations. I am inclined to disagree with most practical men, that blasting requires an explosive compound of slower operation than gunnery—it may be so, but until the invention of gun-cotton, I firmly believe the experiment was never fairly tried, and that the advantage of the cotton depends, perhaps, entirely on the very instantaniety of its action. It would be preposterous, however, to legalise theories respecting the mode of action of a gas under such enormous pressure, that all known laws and formulæ of fluid agents are at fault—the simple datum even of the pressure of exploding gunpowder, varying according to the experiments of continental engineers from the 2000 atmospheres of Meinecke to the 5000 of Xylander. The sole and true guide is the result of numerous experiments, or long practical use. From such as I have made, it appears that in stone of uniform texture, free from beds and joints, cotton fractures the rock more than powder; and, when placed in a beddy rock at right angles to its cleavage, it fractures and shakes the rock in a very remarkable manner. There is no doubt the effect may be varied by increasing or diminishing the charge, as in the slate quarries where a small quantity laid in the plane of the bed, lifted an enormous surface of rock.

That there are other important advantages, such as almost entire freedom from smoke and noxious vapour, and not being at all permanently damaged by becoming wet, any one who has tried the material, furnished by the patentees, will at once admit. But the advantage on which I wish to lay most stress, and which those having the management of public works will at once appreciate, is the *safety* with which it can be used. To compress the cotton, so as to occupy little space, it is enclosed in cartridges, a disc of wood closing up each end. In one of these is a hole, covered with pasteboard, which the miner removes when about to insert the fuse. With difficulty can the miner see the cotton even during the process of insertion, and the fuse closes up the aperture, so as to preclude all possibility of ignition. Cartridges are generally supposed to lessen the force of powder; it may also be the case with cotton, but almost the whole of the experiments having been made with cartridges, this gain in security does not sacrifice, in any degree, its *reputed* strength. Now, most of the accidents in blasting rock in tunnels and quarries, occur either in measuring the powder into the drill-hole, or in stemming; these, therefore, will be entirely avoided. It would be premature for me to enter on the question of price, as I am commencing to use the gun-cotton alone in tunnel operations on the Huddersfield and Manchester Railway—the results of which, in this respect, I hope to communicate for the use, or information, of your readers. In conclusion, I would also draw attention to the fact, that the most important mechanical properties of sporting gunpowder, that all manufacturers have long been endeavouring to attain, are rapid ignition and complete combustion, without any solid residuum. These are possessed in a far higher degree by the commonest gun-cotton; I leave others to draw the inference.—H. F. Mackworth: *Huddersfield, June* 23.

ATMOSPHERIC PRESSURE APPLIED TO MINING PURPOSES.

Sir,—I shall feel obliged by your inserting in your valuable Journal this notice of a scheme, whereby the pressure of the atmosphere could be advantageously applied to mining operations—particularly so, where the motive power (water-wheel, or other engine), and the station to where that power is wanted to be applied, is so situated, as to render the common methods of application unavailable, or to be worked by an expensive and complicated piece of machinery, whereby the power required to perform the duty to which it is to be applied, is nearly all exhausted in putting the machine itself in motion. I beg to suggest to some of our mining engineers the application of air-pumps and an exhauster, to be fixed close by the water-wheel, or other motive power, and to select a spot whereon to fix a drawing-machine, that any shafts already sunk, or any hereafter to be sunk, may be worked to the greatest advantage. This machine to consist of two cylinders—say of 16 in. diameter, with slide-valves, and a double crank, so fixed as to turn the centre; and the communication between the exhauster and this machine to be by means of a close pipe, laid under the surface, to exhaust these two cylinders, and to allow the pressure of the atmosphere to act on the pistons; this could be worked with a 5-ft. stroke to about 36-horse power. The size of the air-pumps and cylinders, of course, to be governed by the power available, and by the duty required to be performed. One cylinder and a fly-wheel may be used instead of two cylinders, and, I think, it will be obvious to any engineer, that the machinery requisite to work this will be very trifling, as there will not be any water wanted to the machine, condensing gear, and other parts, as in a steam engine, but merely the cylinders, cranks, eccentrics, sliding-valves, and hand-gear, and to regulate the power and speed. It may be worked on the expansive principle, or, by having an inverted safety-valve in the exhauster, loaded to any pressure required; and this machine may be either reversed, or struck out of gear, to lower the kibble. I have no doubt but some of your Tavistock readers can, on a little consideration, see where this principle can be applied to a very great advantage; and I have no doubt but this principle is equally applicable to pumping, and other purposes, in some situations, where to avoid encroaching on another lord's land, and the surface damage, would make it very desirable. Should any of your readers fall in with my views, and wish for any further information, I shall be happy to give it through your columns.—Crank: *Tavistock, June* 23.

COMPANY FOR TESTING SUPPOSED IMPROVEMENTS IN MECHANICAL INVENTIONS.

Sir,—We learn, by the letter of your Paris correspondent in your last week's Journal, that a company has been formed in France, "for the purpose of studying, constructing, and experimenting on, new inventions connected with locomotives. The writer observes—"The utility of such a company is unquestionable; for everybody knows that a great many *seemingly*-valuable inventions are lost, from the inability of the inventors to obtain the necessary funds for working a practical experiment," &c. Now, Sir, if the utility of such a company in France is unquestionable, would it not be equally so in England? where, I doubt not, many really valuable inventions are lost to the *inventors*, and perhaps to the *public*, from the same reason. I, for one, though very glad to see such a company in existence in this country, should be sorry if its operations were confined to experiments on locomotives, for they are not alone in being open to improvement—though I am quite aware they have not yet reached the highest attainable point of perfection, but are susceptible of far greater improvements than those with which it is stated the company is to commence its experiment, or the one suggested by your correspondent Mr. Ogle; but, if I am not mistaken, the *stationary engine*, with all the improvements that have been made since the time of the immortal Watt, is yet very far from *its* highest attainable point of perfection; and I might enumerate many other machines, in which improvement could be made, but must defer doing so at present.—John Weston: *Douro Cottages, Portland Town, June* 22.

THE TON MAWR COLLIERIES AND RAILWAY, NEAR NEATH, SOUTH WALES.

Sir,—I called at your office yesterday afternoon, in consequence of my attention having been directed to an article respecting the above works, signed "Observer," Neath, June 14, which appeared in your paper of the 19th inst. I am the Mr. Green, who is referred to in the extract from the *Cambrian* newspaper, of the 8th February, 1845; and my partner (Mr. Weymouth) and myself are now the proprietors of the works, which your correspondent has ventured, in a most unjustifiable manner, to comment upon. The statements and insinuations contained in the article to which I allude, are so unfounded and malicious, that I had no difficulty in surmising who was its author. Nothing but malice could have prompted any individual to concert so many misrepresentations. The motive and veracity of the writer will be best appreciated by those readers of your Journal, who have any acquaintance with him, and the works in question, when it is known that the article is the production of Mr. Joshua Richardson, who was employed upon the collieries about three years ago, and was then discharged, in consequence of his having proved himself to be utterly ignorant of his business.

The paragraph respecting the Ton Mawr Collieries, contained in your paper of the 5th inst., was inserted unknown to Mr. Weymouth and myself, and without our authority. It is true that parties have been in negociation with us, who contemplate the formation of a company, for purchasing the works, and carrying them on upon a very extensive scale; but nothing has been yet arranged; and any such announcement, as that contained in your paper of the 5th inst., is, to say the least, quite premature.

It is with much reluctance that I address you upon this subject. The property and affairs of private parties ought not, in my opinion, to be the subject of comment and misrepresentation in a newspaper, particularly when those parties endeavour to conduct their business in a regular, quiet, inoffensive, and respectable manner, and exert themselves to discharge, to the best of their ability, those duties which are entailed upon them by the ownership of such an extensive property.

My time is now so occupied with pressing engagements, as to prevent my stating, upon this occasion, some facts which will make it at once apparent how untrue and malicious are many of Mr. Richardson's representations. As far as my partner and myself are concerned, we should not think it worth our while to take any further notice of the matter; but I deem it due to my friends (Mr. Charles Strange and Mr. Robert Parsons), that Mr. Richardson's misrepresentations should be met by a counter statement; and I accordingly purpose to forward you, for insertion in your next week's paper, a continuation of this letter, trusting that you will, agreeably with the promise made me yesterday, give this letter as prominent an insertion in your paper of *to-morrow* as was afforded to Mr. Richardson's article, in your paper of the 19th inst.—F. Green: *Angel-court, Throgmorton-steet, June* 25. ——

THE AMERICAN STEAM-SHIP, *WASHINGTON*.

Respected Friend,—The statement which appeared in the last Number of the *Mining Journal* respecting the *Washington* steamer, lately arrived at Southampton, would lead to the supposition that the Americans have completed a steamer, such as no engineer ever dreamt of constructing on this side of the Atlantic. A vessel of 2000 tons, and 2000-horse power, should, if properly constructed, eclipse every other in speed; and as the *Washington* cannot be called a very fast steamer, it would be a curious piece of information, if we could be told the diameter of the cylinders, the length of stroke, and the quantity of coal consumed during the voyage. This vessel must have been visited by some of the many engineers of Southampton, who would be interested in inspecting the first trans-Atlantic steamer, built by an American company. I am led to suppose that the Americans have sent an erroneous statement, as to the power of her engines; for how could a vessel of little more than half the tonnage of the *Great Britain* have engines of double power; than the *Washington* has only two engines—so that we would have to suppose each to be equal in power to the four engines of the *Great Britain*, and I believe there is no engine of 1000-horse power in this country; besides I have always understood that the American marine engines are much heavier than the English engines of the same power. Perhaps there is one 0 too many? I hope we shall have a correct version before long. John De la Haye.

Liverpool, 6th mo. 21.

RAILWAY WORKS—PREVENTING THE FALL OF VIADUCTS.

Respected Friend,—It would seem that engineers take very little trouble in adopting precautionary measures for preventing the fall of railway viaducts, for we frequently hear of their destruction just after being completed. An arch has fallen lately in the Borough, crushing two persons to death, and, in this case, it is probable that no one will be able to decide who is to blame. It is an accident; and the relatives must console themselves with that consideration. A few months since, the immense viaduct of the Liverpool and Bolton Railway was destroyed, the arches falling to the ground, fortunately, without injuring any one, but destroying property to the amount of several thousand pounds. It was said that the accident was not the result of any defect in the construction, but entirely owing to the heavy falls of rain—so that this was another edition of the Barentin viaduct affair. In all these cases it is probable that the works were executed according to the contracts; but if every viaduct is to give way, should it happen to rain heavily after their completion, it is surely imprudent to permit the water to penetrate through the brickwork. It would be easy to cover the surface of the viaduct with cement or asphalte, which would allow the work to dry before laying down the rails. It seems to me also, that the supports are removed a great deal too soon after finishing the arches, particularly when nearly flat. In railway tunnels, which are nearly a half circle, no great precaution is required, as their form prevents the arch giving way; but in respect to ordinary viaducts, a very little more attention would save many lives, and a great deal of property. —John De la Haye: *Liverpool, 6th mo.* 21.

EVILS OF OUR PRESENT SYSTEM OF RAILWAY TRANSIT.

Sir,—However reluctant your correspondents may be to impose upon you the task of calling public attention to the existing evils—alas! too palpable—in our various systems of railway transit, yet the overwhelming calamities as they occur must arouse every dormant faculty; and if any excuse is wanting for the fact of persons coming forward, and, by the aid of your valuable paper, offering suggestions for improvements, these are surely sufficient.

I have for several months past been turning over in my mind the utter unsuitableness of the *carriages* used on railways for *passenger* traffic. The flimsy construction, the "hitchings" and "buffers," and, above all, the box-like form of the carriages, must have struck the minds of our engineers and scientific men as being altogether unadapted and inadequate to the service for which they are required. Several rows of passengers, knee to knee, are crammed into the compartments of a slender, slightly-boarded case, or "box"—this is attacheil to a tolerably strong frame, or rather *upon* it, and, so long as all goes smooth, the hours are winged away without much complaint. But—O, fearful thought!—only let a "truck," "horse-box," or "train," be by some mishap brought into collision, and the "frames" are for a moment rigid; but the recoil throws the tremendous strain unequally upon the misplaced "buffers," the strong frame gives way, and the "box" is shattered to pieces. Now, what has yet been done towards constructing a carriage suitable for railways?—for *iron roads*? Have any experiments been tried to obtain the best *form*, or material, or arrangement for such? It is quite impossible, when looking at a train of carriages, and considering the liability to accident, the speed, force, &c., to resist the conviction that destruction is inevitable on the slightest untoward occurrence. I have begun to get out a plan—one of many which might be suggested—wherein strength in material and form may be combined with comfort, and without causing any great loss of room or railway convenience. My first intention was to model and patent it, as an addition to the "safety and swift locomotive engine," which I patented last year, in connection with Mr. William Stubbs, of Llanelly; but the expense in part, and the very urgent demand for some immediate suggestion, have induced me to lay the plan before the public now, and, if advisable, I may make some future additions and patent it. My plan is as follows:—The form of the carriage, or separate compartment, should be *round*—a hollow globe—instead of oblong or square. It should be a framework of "*angle iron*," such as is used in shipbuilding, &c.—the ribs uniting or meeting at the centres which come in contact with the next carriages—and a strong cap, or plate of iron, should receive the ends of the curved angle-iron—the whole to be cross-stayed, and the iron galvanized. A door-way on each side could easily be arranged, without much detriment to the strength of the whole. The arrangement of seats *round* the inside would be pleasant and safe—*safe*, compared with the present edges of two boards ready to meet, in case of accident, just below the knees of the passengers; and the ventilation might be greatly improved. Place this kind of "*shield*" upon a strong iron frame, and allow the carriage wheels, which by this plan might be larger, and suit increased speed, to run altogether clear of the body of the carriage, and so avoid the imminent danger arising from wheels and axles *under* the carriage. A very suitable and simple buffer frame might be made, equally efficient in curves, which the present are not, and straight lines. The advantages of such an arrangement and construction of carriage are very numerous—some of which I will endeavour to point out in my next communication, with drawings of the plan.—J. J. Grylls.

South Wales Iron-Works, Llanelly, June 22.

ACCIDENTS ON RAILWAYS—IRON GIRDERS.

Sir,—The accidents which have lately occurred on our railways, demanded and received much of the attention of scientific men. The cast-iron girders on the Chester line have rather engrossed my attention, in common with that of several others. The letter of Thomas Motley goes to demonstrate the value of those girders. Circumstances, over which engineers can have no control, sometimes press cast-iron girders upon their attention, and even enforce their adoption. To meet such a peculiar case, of course, it is absolutely necessary to consult the best form, and secure the best flowing metal, to obtain uniformity of texture. Knowledge is but the accumulation of experience; I, therefore, offer my mite. A few years since, I was consulted on the replacing an extensive wood floor with iron, &c. We were confined in depth, and the floor is liable to very heavy weights, and also to severe concussions. The form which I adopted for my girder was that of a hollow triangle, continuing the bottom face, so as to project about 2½ in. on each side; thus, I had also a skew back, or abutment, for a brick arch from girder to girder, consisting of two courses of good brick on edge, set in Roman cement. The spandrils were filled in with concrete, levelled, and a super-surface of asphalte was laid on; I may add, that the floor has fulfilled my expectations. The value of the broad flange, at the bottom face of the girder, will be recognised at once, and the triangular shape being also the strongest, offers more than one advantage.

Truro Wood-Works, June 21. —— W. E. Gill.

RAILWAY ACCIDENTS—BRIDGE BUILDING.

Sir,—There is one fact connected with the employment of cast-iron girders for railway bridges which is so very important, that I shall make no apology for troubling you with this letter. Cast-iron is a remarkably hard and rigid substance, but exceedingly brittle, and though it will bear an enormous pressure, gradually applied, without fracturing, it will break under a comparatively trifling blow. Now, when a cast-iron girder is used to carry the wall of a building placed above it, the weight is gradually laid upon the girder; and, when finished, it is subject to no particular variation, and the girder supports its burden firmly and securely. But when a cast-iron girder is applied to carry a heavy train across a bridge, the weight it has to bear is very suddenly, and with express trains, almost instantaneously, thrown upon the girder, and as suddenly removed; and hence it assumes, to all intents and purposes, the character of a blow, and the girder is subjected to a strain which it is quite unfitted to bear. Rolled iron rails are invariably made use of, because it is a well-established fact that cast-iron rails would fracture under the rapid speed of a train, and yet cast-iron is recklessly employed in the form of girders, which are only rails of much larger kind. I am in the constant habit of seeing iron girders tested in the usual manner by the hydraulic press, but this ordeal does not prove their fitness for railway purposes, because the power of the press is very gradually applied, and as gradually relaxed. I saw a practical proof of this a few days ago; a large cast-iron girder had an accidental fall, and it immediately broke into three pieces. I could multiply this assertion by

many similar practical proofs; but I will only add, that it is my firm conviction—a conviction strengthened both by theory and practice—that a cast-iron girder ought never to be trusted to bear a vast weight suddenly placed upon it and as suddenly removed; and, therefore, cast-iron girders should never be used for the means of railway transit, as in every case they are subjected to a strain which, from their very nature, they are unable to bear.—A Practical Man: *London, June* 22.

ON THE VENTILATION OF SEWERS.

Sir,—The ventilation of sewers is a subject of such great importance, as it effects, for good or for evil, the health and comfort of the inhabitants of all towns and populous districts, that I hope those of your numerous and talented correspondents, who have devoted so much time to studying, examining, writing upon, and discussing, the equally important subject of the ventilation of mines, will now be induced to take up the question of the ventilation of sewers—not, I trust, in a spirit of rivalry and hostility with each other, but with the praiseworthy object of assisting, by their knowledge and application of the sciences of pneumatics and chemistry, and from their observation and practical experience in the ventilation of mines, to perfect some scheme of ventilation, so very essential in the arrangement of a complete system of sewerage for our towns. When it is considered how very offensive are the stenches, and how pernicious to health are the gases, which evolve from decomposing filth lying in drains and sewers, and of the sickening and baneful effects of which every one is sensible, it is a matter of surprise, that so little has as yet been done towards providing a remedy against so great an evil. That a simple, cheap, and efficient system of ventilation can be contrived, and easy of application, I have not the least doubt; and, if such can be shown, I am quite certain that the authorities having the control over our sewers in towns, as good guardians of the public health, would be most ready and willing to adopt it. My impression is, that an efficient system of ventilation of sewers must be materially dependant upon their mode of construction and arrangement with each other. In order to make this division of the subject appear quite clear, I will now offer a few observations thereon, and will in future letters follow it up. The form of the sewer itself, and the manner of connecting them together, influences the motion of the water flowing along them, so as either to cause or prevent deposit; upon this also depends their cleanliness and ventilation. The egg-shaped sewer, with the narrow end placed downwards, is not only the strongest, but it is at the same time the most economical in construction; and, from its bottom being narrow, the stream is concentrated on a small area of friction, and, in consequence, the velocity is quickened, which, when the fall is good, prevents deposit and accumulation from taking place. Abrupt angles cause eddies in the stream, and thus weaken its power of propulsion; and the matter which is held in suspension by its velocity and force, previously to being thrown into eddies, deposits at and about the angles, and, the accumulation continually increasing, the sewers at length become choked up throughout. From this it will be seen, that angles of all kinds should be studiously avoided, and that all the junctions and any change of direction should be made with a curve, having as long a radius as it is possible to strike it with; then the streams, in meeting and uniting one with another, will do so without disturbance, and the body of water flows onward with increased power. Thus the question of the best form of sewer, and the manner of joining sewers together, admits of no dispute, and is easily settled to the minds of practical men. The next matter of importance relates to their levels, and their arrangement one with another, which will be the subject of my next letter. In the meantime, I wish to see the question of ventilation taken up; but the writers must bear in mind, that the air in the sewers must be purified and freed of the deleterious gases with which it is charged, before it is allowed to escape into and mix with the external atmosphere. In a discussion of the best mode of effecting this desideratum, I shall be most happy to lend a helping hand.

Pimlico, June 21. —— J. Phillips, Asso. Inst. C. E.

ON Mr. MUSHET'S DARK-HILL PIG-IRON.

Sir,—The late lamented and illustrious David Mushet showed how to produce very pure strong fibrous iron, from the blast furnace, of great homogenity, wanting no refinery process, and which he proved only deteriorated the metal. By his method the iron only requires, for certain purposes, to be reheated, with the addition of a small portion of ore; and shingled, or rolled, into bars of amazing nerve, fibre, and cohesion. He was a man of great meekness and suavity, who did not consider that he came into the world to benefit himself exclusively; and published, from time to time, many valuable methods of operation in iron making. The above plan he used at Coleford many years since, which cost him considerable time, labour, and expense, to reimburse himself for which he took out a patent. This patent, however, was invaded by a man of *such enormous wealth*, as to be able successfully to set both honourable dealing and law at defiance—one who could afford to expend 10,000*l.* per annum in law to defend his encroachment, easier than Mr. Mushet could afford 100*l.* I think Pope mentions a man, who was "*for law too mighty grown*," &c., and I know at this time more than one or two such in the iron trade in the City of London. About three weeks previous to his death, Mr. Mushet sent me a large piece of his *Dark-hill* pig-iron for my opinion. It is the production of his faithful and virtuous youngest son, Mr. Robert Mushet, under his father's direction and rules; and I am bold enough to assert, that being now 72 years of age, during which time I have had much experience in iron and steel making, that this pig-iron is the best ever yet produced by any man with mineral fuel. It possesses great hardness, density, cohesion, and amazing natural fibre, chiefly gained in the process of reduction; for I agree with Mr. Mushet, in considering *pig-iron*, and not refined metal, as the true source of hardness, fibre, and stability in bar-iron, particularly when cold; and that, were the ironmasters to proceed according to the rules which he published for them, the great evil of lamination, so very injurious to the durability of railway iron, would be prevented. It is quite true, that crystallisation in the railway bars is constantly going on, for the continued vibration caused by the ponderous vehicles, travelling at such amazing velocity, causes the iron rails to become brittle, and, in some cases, to exfoliate rapidly, because there is not a sufficiency of strong natural fibre in the pig-iron before rolling it into bars, which operation only gives a portion of the strength by condensation; but can never impart that strong natural cohesion of particles, which all good iron should possess in its first reduction from the ore. The latter are the qualities which all iron should have, intended for cannon, steam-engines, cranks, axles, chain cables, railway bars, girders, and for every description of iron bridges; and if the Chester Railway engineer had adopted the use of Mushet's Dark-hill iron, the late fatal accident would not have occurred, nor others elsewhere. I know very strong doubts have been expressed, touching some of the ironmasters being favourable to the rapid decay and weakness of iron; and really the suspicion does not appear groundless, when it is proved they refuse to avail themselves of effecting a saving, but also of producing a very much stronger and more durable article; therefore, let all the engineers take care of themselves.

Mr. Mushet's iron possesses all the good qualities mentioned, in a superior degree to any other in England. Himself and son were very particular in making good coke. The ore they worked was calcareous, and very good, but poor in yield, and obtained under great disadvantages, although they possessed an extensive quantity; yet, for want of pecuniary means, were unable to avail themselves of it. Added to these perplexities, Mr. Mushet was visited with some extremely heavy and most unnatural family afflictions for several years, up to his death; but for which, notwithstanding the infringement and robbery committed on his patent right, his iron-works at Coleford would have produced him a competent fortune. He is now at rest, and died in peace, and in the possession of a good conscience.—John Upton, Mining Engineer: *London, June* 23.

THE LATE DAVID MUSHET.

Sir,—A highly indiscreet and indelicate advertisement having appeared in the *Times* of the 21st inst., respecting my lately deceased father, without, as far as I am aware, the sanction of his family, and assuredly without mine, I beg to forward you the copy of a letter this painful circumstance has compelled me to address to the editor of that Journal.

London, June 22. David Mushet.

Sir,—An advertisement in your Journal of yesterday appeals to public benevolence in behalf of the widow and grandchildren of my late father, as the discoverer of the black-band ironstone. This paper is unauthorised by his family; and if intended, as stated, to be the effort of friendship, it wears more the character of a spurious insult to his memory. He left the individuals alluded to considerable property of increasing value. To show the complete misunderstanding of the parties as to facts, I have to state that my lately deceased father has not two, but four, grandchildren, and that their parents are living. The benefits Mr. Mushet has conferred on his country are undoubted; but his family is not in a condition to appeal to public sympathy. I trust your sense of justice will give insertion to this letter.—David Mushet: *London, June* 22.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—On observing a letter inserted in the *Times*, on the 23d inst., from Mr. David Mushet, reflecting on an advertisement I have felt it my duty to publish, I addressed the following reply to the Editor of that paper, and which I should feel obliged by your also giving publicity to.—John Upton, Engineer.

Mr. Editor,—I have observed an advertisement in your paper, by one of the sons of the late David Mushet, Esq., requesting you not to insert again the advertisement drawn and inserted by me; which I have done at the request of his mother, and the virtuous part of his family, for their exclusive benefit. As considerable sums have been already paid as subscriptions, whose names are not appended—one for no less than 500*l.* alone—permit me, therefore, in the honesty of my principles, and as a sincere friend to justice, to request you to repeat the advertisement, the truth of which I am willing to defend with my life, for the sake of my own reputation. John Upton.

Castle-place, Battersea, June 25.

VENTILATION—Mr. G. SHEPHERD AND "THE BLACK DIAMOND."

Sir,—I am charged by Mr. Shepherd with contradicting, by my last letter, those principles which I had advocated in a former communication to your Journal. With reference to my letter of May 15th, to which Mr. S. alludes, I will only state that the opinion I there expressed has been confirmed in its correctness by other two of your correspondents, and to the present time has not been impugned, even by Mr. Shepherd. As respects the observations I ventured to offer on the last scheme of Mr. Shepherd I would remark, in reply to that gentleman, that the *calculable capabilities* of the main upcast shaft for the purposes of ventilation (having a properly-constructed furnace at the bottom) will be found to bear a ratio in power and usefulness, as compared with the funnel by its side, in the proportion of the area of the one to the other, say five to one, and this minus the expense of constructing the latter. I observe that Mr. Shepherd has withheld the required details for the construction of his furnace at surface, as asked for, possibly from a just dread of these also having to pass through that ordeal, which all empirical notions are exposed to in the columns of your valuable Journal. The Black Diamond.

Kilburn, June 21.

VENTILATION OF MINES.

Sir,—Your correspondent (Dr. J. Murray) must, I think, admit, that means may be adopted, by which *any* mine, however difficult, may be thoroughly and effectually ventilated; but the grand question comes, will the result to be obtained by its application warrant such an outlay? I conceive, the most efficient mode of ventilation would be, first, to thoroughly and effectually drain off the gas, over as much space as would be wanted in a colliery for the ensuing 20 or 30 years (preparatory to getting the coal)—at least, as near as the present advanced state of geological and chemical knowledge of the coal seam would admit of; then, by the most effectual means, pour through the mine such a current of pure atmospheric air, as could, at all times, be varied, according to circumstances; but would Dr. Murray defray the expense? Most parties would become ruined in the attempt in making preliminary preparations—consequently, what remains to be done, is, I presume, to adopt the most efficient, economical, and safe mode of ventilation yet known, in combination with the most approved mode of getting the coal, according to local circumstances. In the first place, Mr. Editor, has Dr. Murray proved to us the efficiency of the system in question? He tells us, that gas is "very light," and will escape up an inclined plane, if allowed to do so, from its own specific gravity; but he should tell us how to get it *down* an ineline plane (by the system he advocates), extending some distances from the pit bottom. This, in 1835, I guess, he would have effected by 1-in. piping, carried throughout the mine—(*vide* evidence before the Committee of the House of Commons, p. 238.) May I be permitted to ask Dr. Murray, whether it has answered the purpose for which it was intended, or whether it has met with the same fate as his Gibbonian system evidently must—viz., sink into oblivion? As to economy of the system, Dr. Murray is silent; and as to the safety, he tells us the explosions that have happened have been "purely accidental." How often have I perused able papers, inserted in your Journal, from this gentleman, upon the verdict given at inquests on accidents connected with mining. "The old story," he observes, "oh! purely accidental," "quite from accident," &c., observing, that, "comparatively speaking, no explosion of fire-damp ought to be considered accidental." But I think Dr. Murray must agree with me, that the accidents he alludes to in his last letter, must have happened, in a great measure, from the perversion of the known laws of Nature—consequently, the poor operatives have unfortunately fell a sacrifice to the futility and waywardness of others. What Mr. Gibbons so indignantly judges and charges others of having done, applies equally forcible to his own case now, and is what may have been expected by every rational and unassuming man; and the next party who writes a work on the Ventilation of Mines, I would entreat them to leave out all reference to persons, or servants, as such nonsense can only detract attention from the merits of the work, and is altogether productive of evil. To tell the world in his pamphlet, Mr. Editor, "that his system would have been perfected earlier, but that he could not find an intelligent mine surveyor in the *whole* district of South Staffordshire, until he met with his intelligent and indefatigable surveyor, Mr. Moses Taylor." There is a laurel yet in store for the "illiterate" and "inattentive" surveyors of South Staffordshire, notwithstanding Mr. G.'s *good word*, corroborative of what I have before advanced; where are the four parties whom I asked to give their decided opinion on the subject? No, Sir, they will not know the "old plan" *new revived*, unequivocally, and publicly—their respectability and practical knowledge will not suffer them; and allow me, once for all, to observe, whatever I have written, or said, on the subject, has been done with the best feelings towards advancement; and if Dr. Murray wishes to know my "authority" for so doing, it is at the instance of those interested in mining in this locality, and with a good feeling towards the suffering collier; and would advise him, before he *censures* me again, to make himself thoroughly acquainted with the circumstances of the case, both locally and practically; and if he can practically prove to me that the system is of that character as he professes, I assure him no party will be happier to become a convert.

Dudley, June 22. Henry Johnson.

DR. CLANNY'S SAFETY LAMP.

Sir,—Before proceeding to reply to the tirade of abuse Dr. Clanny has chosen to bestow upon an individual (who is entirely unknown to him), in your Journal of the 19th inst., I would again remind your readers, that this correspondence was not commenced with the slightest wish to detract from any real merit (if any is due) to Dr. Clanny; but solely that neither more nor less than *the whole truth* be developed on a subject so seriously affecting the lives of so many of our fellow-men working in the mines, to whose safety all minor considerations of pre-eminent ingenuity must give way, or remain inadmissable to the public mind, unless with the most rigorous and searching investigation, and, I would add, accompanied to this end by testimonials (which no respectable man can refuse), as to the justness of their claims; but *not simply with the ipse dixit* of the author, as I am now quite certain the assertions made by the doctor are tantamount to, in the majority of cases he has quoted in his letters to the Editor of the *Mining Journal*, as well as to several other publications.

The friends of Dr. Clanny, some time ago, applied to me and my partners to add our mite to a sum to be raised for a testimonial in approbation of his efforts in favour of safety lamps; and I feel a pride in saying, that we are not men to be asked twice for any gift in our power, either towards benefitting the condition of our fellow-men, or in acknowledging claims to the praise of the world of those who have laboured for them. In the present instance, we will cheerfully do so, if grounds can be shown of a sufficiently unimpeachable nature to authorise it; but, certainly, not otherwise.

The bold assuming tone in which Dr. Clanny drags not only my colliery, but many others, *unauthorised* before the public, will, I consider, justify any amount of anonymous writing; and so long as the truth, and the whole truth, be elicited, it surely can make little matter by what means that is attained, if even by the efforts of anonymous writers; at the same time, had Dr. Clanny in the first place openly sought the opinions of the owners or agents of these collieries, I venture to say they would not have been refused, and he would have saved himself from much annoyance, which he seems to experience from such parties, and, allow me add, from much more still likely to come. I speak from what I know of my own agent, and feel sure that no respectable agent in the county of Durham or Northumberland would have refused to reply directly to Dr. Clanny's application, had it been made in a fair and proper manner.

My agent denies that he ever was solicited, or ever gave any information to Dr. Clanny; and he adds, that the same statement is made by others who are agents, or viewers, connected with the collieries named in the *Mining Journal* of the 3d of April. So much for the allegation with which Dr. Clanny concludes his last letter, in which there are only two points still remaining to be noticed.

Instead of the *general use* we were previously led to assume, we find in this last epistle a qualified admission, that the lamps have only been *called into use*, or (to use the words of my own agent) *experimented with*; and I am told, in terms never too highly to be reprehended, in reference to the extent to which they have been used, *to hunt out such information*; so far as my own colliery is concerned I have done so. My agent replies, that he has had one on trial, and has tried, in mixtures so foul with explosive gas, as to cause instant asphyxia to any one entering the place; and his opinion is at Dr. Clanny's service, as to the qualifications of the lamp, so soon as it is properly sought for—but not whilst information, calculated to mislead, is attempted to be foisted on the public, by means of unauthorised statements in an influential journal.

Lastly, I would observe, that I never either saw, or dined, with Dr. Clanny, nor am I, from the tenor of his last letter, ambitious of improving our acquaintance, though sorry to think that our correspondence is not likely to be graced with a more satisfactory feeling, on my part, on its conclusion. I, therefore, beg to remain still as—An Owner of One of the Collieries in which Dr. Clanny says His Lamps are in Use.

Durham, June 23.

PRACTICAL MINING—Mr. G. SHEPHERD, C.E.—Mr. GIBBONS.

Sir,—Mr. G. Shepherd, C.E., has been abroad, it seems, and, without doubt, has seen a deal of mining on the continent;—will he be so kind, then, as to give us, through the *Mining Journal*, the opinion he has formed of the mode of coal getting abroad? is it better than the English? are the foreign collieries better ventilated than our own? If I understand right, there are gentlemen inspectors directing the working of continental collieries. In some of Mr. Shepherd's papers to the *Mining Journal*, he seemed to think the colliers would reverence gentlemen colliery viewers much more than they would viewers taken from their own ranks; whatever they might think of one at the outset, the very first underground blunder he made (and there are workmen who would soon see it), they would immediately despise him, and some of them would soon tell him what they thought about him. I never saw one of those sort of men, capable of properly managing a colliery, without having a practical man to assist him; and, notwithstanding that, I have known, through the obstinacy of such men, very great blunders made. I have also known very bad accidents happen to collieries, unexpectedly and altogether unavoidably,—who have invariably been the men called in to set them right?—not gentlemen, but the most active practical men that could be found. I will give you one instance, out of scores, that I have been witness to in my long career:—A most respectable ironmaster employed a person to erect a forge and rolling mill for him; when completed, the job was done very much to the satisfaction of the gentleman—indeed, the person pleased his master so much, in the mill business, that he made him a general overlooker of his mines: now, the ironmaster had two coal pits at work, something less than half a mile apart; this new favourite persuaded his master to sink a third pit between the two, which the gentleman directed his own mineral agent to do—"Why sink a pit there, master?" said the man; "we can get all the coal very well from the two pits now at work; besides there is a deal of sand and gravel, attended with water, there, and we shall carry that water down and have to pump it up again; don't sink a pit there, I beg of you." "I will have it done," said the gentleman, and so he had it done, and it cost 30,000*l.* The gentleman is still living, and if you place this in the *Mining Journal* it may meet his eye, and he will remember it.

And now, Sir, the controversy about Mr. Gibbons's ventilation is drawing to a close; and, what in the world have the practical colliers learned from the voluminous contributions of your theoretical correspondents on the subject? Are we any the wiser from their fanciful ideas?—no, nor ever shall be; they cannot comprehend the difficulties attending an old colliery infested with fire-damp, surrounded, as it often is, with old works full of foul matter, ready to be set in motion by every storm, or change of wind—such a state of things is above the comprehension of merely theoretical men. T. Deakin.

Blaenavon, June 21.

Wrestling Match Between a Cornish Miner and a Condor.—In riding along the plain I passed a dead horse, about which were 40 or 50 condors. Many of them were gorged and unable to fly, several were standing on the ground devouring the carcase, the rest hovering about it. I rode within 20 yards of them. One of the largest of the birds was standing with one foot on the ground, and the other on the horse's body—display of muscular strength as he lifted the flesh and tore off the pieces, sometimes shaking his head, and pulling with his beak, and sometimes pushing with his leg. Got to Mendoza and went to bed. Wakened by one of my party who arrived. He told me that, seeing the condors hovering in the air, and knowing that some of them would be gorged, he had also ridden up to the dead horse, and that as one of these enormous birds flew about 50 yards off, and was unable to go any further, he rode up to him, and, then, jumping off his horse, seized him by the neck. The contest was extraordinary, and the rencontre unexpected. No two animals can well be imagined less likely to meet than a Cornish miner and a condor, and few could have calculated, a year ago, when the one was hovering high above the snowy pinnacles of the Cordillera, and the other many fathoms beneath the surface of the ground in Cornwall, that they would ever meet to wrestle and hug upon the wide desert plain of Villa Vicencia. My companion said he had never had such a battle in all his life; that he put his knee upon the bird's breast, and tried, with all his strength, to twist his neck: but that the condor, objecting to this, struggled violently: and that, also, as several others were flying over his head, he expected they would attack him. He said, that at last he succeeded in killing his antagonist, and with great pride he showed me the large feathers from his wings. But when the third horseman came in, he told us that he had found the condor in the path, but not quite dead.—*Sir Francis Head's Journey Across the Pampas.*

Curious Calculation.—What is a billion? The reply is very simple—a million times a million. This is quickly written, and quicker still pronounced; but no man is able to count it. You may count 160 or 170 in a minute: but let us even suppose that you may go as far as 200; then an hour will produce 12,000; a day, 280,000; and a year of 365 days, 105,120,000. Let us suppose now that Adam, at the beginning of his existence, had begun to count, and continued to do so, and was counting still, he would not, even now, according to the usually supposed age of our globe have counted near enough. For, to count a million times a million, he would require 9512 years, 34 days, 5 hours, and 20 minutes.

Blasting by Potassium.—As under many circumstances blasting by voltaic electricity would be found inconvenient, from the great length of wire, its liability to corrode under any lengthened operations, and other circumstances, an ingenious suggestion has been made of taking advantage of the property of potassium to decompose water and evolve potassuretted hydrogen, which takes fire spontaneously when in contact with the atmosphere. To effect this, a tin case must be provided, closed at both ends, except a small hole in the centre of one. Fill this with gun-cotton, or gunpowder; if the latter, fasten a piece of pasteboard, pierced with holes, over the orifice. Make a small case of pasteboard, open at one end, very shallow, and wide enough to cover the hole in the larger cylinder or case; in this, put a piece of potassium, invert it over the hole in the larger case, and fasten it on. The case thus prepared, with weights attached, is carried down by a diver, and placed in a proper situation; in half-an-hour, the water will soak through the pasteboard top, come in contact with the potassium, immediately inflame, and cause the explosion of the case.

Improvements in Iron Manufacture and Coating.—Messrs. Morewood and Rogers have obtained patents for several new processes connected with the coating of iron with unoxidisable metals; and, also, for a machine for corrugating sheet-iron for roofs, &c. The latter consists in a fixed bed, moulded on the upper surface to the form required for the sheet-iron; and another mould, the face of which exactly fits the lower one, works in a strong frame on cranks and axle, set in motion by any proper machinery. The former improvements, with respect to coating metals, consist first in the use of a certain alloy of tin and zinc, so as to obtain the production of zinc, combined with the advantages of tin as a covering—at the same time, to obtain a harder coating than could possibly result from the use of either of these metals alone. Fifty parts of zinc, and fifty parts of tin, is the proportions of the metals employed; and as the tin is diminished in quantity, the adherence of the coating becomes less effectual. Secondly, the coating iron with molten zinc, and using the products of zinc, formed by precipitation of that metal in the bottom of the bath; such products have been heretofore waste, and require great heat to melt them, employing chloride of manganese as a flux. Another description is 50 parts of zinc, 34 of lead, and 16 of antimony, well stirred together—the lead and zinc should be melted to a red heat before supplying the antimony. Thirdly, for subjecting sheets of coated metal, revolving in a flux, kept constantly to a rather lower degree than the melting point of the coating metal, by which means the coating will be rendered soft, and is acted on by the pressure; and, fourthly, for the employment of certain means of coating iron, to be acted on by muriatic acid, and to prevent, or dissolve, oxide confined above the metal bath, excluding all communication with the atmosphere as much as possible.

New Motive Power.—Mr. Fox Talbot has taken out a patent for a new, or rather a remodification of a plan, for generating and applying motive power. This he has effected by exploding gun-cotton alternately on each side of the piston. At the bottom of the cylinder, on each side, are two circular holes, in which the explosive material is supplied by a tubular slide. Passing through the cylinder is a platina wire, for the purpose of being excited by the galvanic battery, and thus explode the cotton. In preparing the cylinder, the tubular slide is first filled with gun-cotton, in each division thereof, so as to allow it to be exposed to the immediate action of heat in passing through the cylinder, by being brought in contact with the platina wire, taking care that one charge shall have been discharged before another is introduced—and thus causing, by repeated explosions, a motive power for giving motion to machinery, &c.; such power being regulated entirely by the quantity of explosive material employed.

The Improved Air-Blast Locomotive Engine.—Mr. Kite has taken out letters patent for a novel mode of rendering the current of air which passes a locomotive in its rapid flight subservient to a blast for supporting the fire, and thus saving the amount of power necessary for the blast. He places a series of deflecting plates on the sides of the ash box—so that, when the engine is in motion, the air impinges upon the plates, and passes through openings between them towards the fire-bars and the furnace. The ash-box is divided into three longitudinal chambers, which are intended to prevent any injurious effect which might result from the introduction of an opposing current of air when the wind happens to be in a line not parallel with the line of motion of the locomotive. A second series of deflecting plates are inserted into the front of the smoke-box, and lead into a chamber terminating in an annular opening which surrounds the exhaust pipe. The atmospheric air with which the deflecting plates are brought in contact is, in a great measure, by the action of those surfaces, propelled up the chimney, with more or less force, according to the velocity at the time, and to the direction in which the wind is blowing. The exhaust pipe is made of sufficient size, to allow of a free exhaust of steam from the cylinders, without producing what is termed back action on the piston. Should, however, the driver have, on an emergency, to revert to the ordinary mode of obtaining a blast by the contraction of the blast-pipe, he has only, by means of a lever handle, to bring down a valve, which will shut off the air from entering the openings between the deflectors, and drop over the mouth of the exhaust pipe a nozzle, which will contract the opening for the escape of the exhaust steam, and put the blast in the same condition as now generally used. When the locomotive is in motion, or the wind is blowing upon the chimney, either in back, front, or sides, a partial vacuum is produced inside, and a corresponding action produced upon the fire, from the rush of air through it, to supply the void in the chimney. In some cases, instead of leaving open the top of the chimney, it is proposed to close it up, and leave one or more smaller passages for the escape of the waste steam; or it may be allowed to escape from a pipe placed outside the chimney, in which case there will be no occasion for the smaller passages.

Railway Breaks—(*From a Correspondent*).—Among the numerous suggestions for breaks, for arresting the velocity of railway trains, is an invention by Mr. Padley, of Sheffield; and we should advise him, in any of his future inventions, to steer clear of Mr. Brunel, who is the last man we should ever look to for improvement, not only in railways, but in any of those advancements in science which tend to the amelioration of the character of human nature, the comfort and luxury of society at large. He (poor man) is so conceited, so convinced of his own ability, that offer to his inspection what you will—let it be the greatest improvement possible, on any existing plan of any mechanical invention—and the answer you get is, an acknowledgment of the receipt of your letter, from a person who signs himself "W. Barker," telling you it has been known long before, and very probably patented by others. The break which Mr. Padley suggests, consists of a rail about 6 in. broad in the centre of the road, to be acted upon by a screw drag from the foremost carriage, and on which, by a lever and screw, the guard would have the most complete control.

Jones's Patent Mortice Cutting Machine.—In the *Mining Journal* of the 13th of March last, we described a machine, lately patented by Mr. Jones, of Goswell-street, for cutting mortices, and which, as we then stated, acts with the most perfect freedom, correctness, and rapidity. We understand that, although it is only a few months since this machine was first brought before the public, orders have been executed to a great extent, not only among the carpenters and builders of London, but to most of our large sea ports, and several inland towns. One test of the machine performing its work satisfactorily is the fact, that in more than one instance, both in London and in the country, the parties having used the instrument and proved its utility, have immediately sent for more.

Baron Von Rathen's Compressed Air Locomotive.—In the course of some very able papers which appeared in this Journal—a few months back, by "x^2," "On the Power attainable by the Exhaustion and Compression of Air," reference was made to a company, supported by some highly scientific names, as being in the process of formation, to carry out a compressed air system of propulsion patented by Baron Von Rathen, of which the writer of the papers appeared to entertain a more favourable opinion than any plan of the kind yet brought before the public. On Thursday last, we had the pleasure of witnessing, at the College for Engineers, Putney, some experiments made in the workshop of that establishment, to test the practicability of Baron Von Rathen's system; and were rather (unexpectedly, we confess), gratified at the results. We saw air compressed with facility to nearly 60 atmospheres, or upwards of 850 lbs. per square inch, and the power thus accumulated set free again for motive purposes, without either branch of the process being attended with any of that evolution of excessive heat which has been hitherto supposed to be an insurmountable obstacle to the employment of compressed air as a motive agent. The ingenious inventor not having as yet perfected his various patent rights, we are precluded from entering at present into further particulars. In the workshop, where the experiments took place, we saw a common road locomotive in progress of building, which is expected to be finished and at work in August next.—*Mechanics' Magazine.*

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

TUESDAY.....National Provincial Bank of England—offices, at Twelve for One.
South Australian Banking Company—offices, at One.
WEDNESDAY..Ballesvidden Mining Company—on the mine.
Asturian Mining Company—offices, at Two.
Rock Life Assurance Company—offices, at Twelve.
THURSDAY....Caradon Wheal Hooper Mining Company—on the mine, at Twelve.
European Gas Company—offices, at Two.
South Sea Company—offices, at Twelve.
FRIDAY.....London Dock Company—offices, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

BIRMINGHAM AND OXFORD JUNCTION RAILWAY.

An adjourned general meeting of the shareholders in this company was held at Dee's Royal Hotel, Birmingham, on Saturday last, the 19th inst.

P. H. MUNTZ, Esq., in the chair.

The usual preliminary business having been proceeded with, Mr. MOSELEY enquired if the chairman had any remarks to make to the meeting, and being answered in the negative, said he very much regretted it, as he hoped to have heard such a statement as would have saved the trouble of further proceedings. He then moved—"That this meeting, referring to the resolution of the directors, passed on the 13th of March last, set out in the notice under which this meeting is held, do protest against such resolution, as being wholly illegal and beyond the powers of the directors, and can only view it as an attempt on the part of the directors to deprive the shareholders, for whose interest they are trustees, of the privilege of electing six new directors, to which they are entitled by the Act of Incorporation, inasmuch as the delegating to a sub-committee, or any three of them, all the powers of the directors without exception, including even the power to make calls, and of inserting into bills in Parliament, affecting the property of the shareholders, any clause they, or any three of them, may think fit, rendered the appointment of such six new directors at the meeting of the 13th March a mere delusion; and that this step on the part of the directors, is the more reprehensible, since the majority of a quorum of such committee might consist merely of persons who are also directors of the Great Western Railway Company, or directors of the Birmingham, Wolverhampton, and Dudley Railway Company, the interests of which companies might be contrary to the interests of this company; and that the circumstance of the said committee being appointed on the very day of, and but an hour prior to, the appointment of the six new directors (and without being communicated to the shareholders at the time of such appointment), conclusively shows that such committee was appointed, not with a view to the necessary conduct of the company's affairs, but for the express purpose of nullifying in effect the election of the six new directors by the shareholders; and this meeting doth protest against all the acts of such committee, and doth direct that notice be given to each of the directors that the shareholders will hold to be illegal and of no effect, everything done by such committee; and this meeting doth appoint Messrs. Colmore and Beale as the agents for the company, for the purpose of giving such notices accordingly."—After an explanation from the CHAIRMAN, the resolution was carried unanimously.

A great deal of discussion ensued on a resolution proposed by Mr. PARSONS, which he afterwards modified, and was put as follows:—"That, with a view of affording a further opportunity of any explanation or statement to be given by the directors at a further adjourned meeting, and for enabling them to take measures to lay the bill now before Parliament before the shareholders, and which adjournment this meeting desires to make for those purposes, this meeting be adjourned to Wednesday, the 30th day of June inst., at Dee's Royal Hotel, in Birmingham, at half-past two o'clock in the afternoon, when the consideration of all and singular, the matters mentioned and referred to in the requisition of the shareholders of the 29th of April last, shall be resumed, if necessary." This resolution was carried unanimously, and the meeting then separated.

THAMES HAVEN DOCK AND RAILWAY COMPANY.

A special meeting of the shareholders in this company was held yesterday at the Guildhall Coffee-House, pursuant to advertisement, for confirming the forfeiture of certain shares. W. CHADWICK, Esq., in the chair.

The SECRETARY having read the notice convening the meeting, the CHAIRMAN observed that gentlemen present were aware that the present meeting was a special one, called for a formal and special purpose; he would not, therefore, intrude then upon their time, but at the conclusion of the business, he should be happy to give any information relating to the company's affairs. It appeared from the conversation which arose, previous to passing a resolution of forfeiture, that on the 23d February last, a resolution passed the board of directors, declaring 1791 shares forfeited—that since then all had been paid upon, excepting 200; and a resolution was carried with one dissent, "that the forfeiture of the said 200 shares be confirmed." The chairman then drew the attention of the meeting to a comparison between the Eastern Counties scheme, from Forest Gate to Southend, and Tilbury Fort, and the plans of the Thames Haven Company to effect the same objects; they could effect by a much shorter and better route for 350,000*l.*, what would cost the Eastern Counties Company 560,000*l.*; and their branch of 10 miles from Thames Haven Dock to Southend would, he was sure, cost less than that portion of the Eastern Counties plan of 3¼ miles from Leigh to Southend; they could not proceed until next session for their bill, and in the meantime the Thames Haven Company would be prepared with so matured and important a scheme, that there was no doubt of their complete success in Parliament. The half-yearly meeting would be held in a few weeks, when, from the statement laid before the shareholders, and the position of their finances and shares, they would be satisfied they had embarked their capital in an undertaking which would eventually prove most successful. Thanks were then voted to the chairman, and the meeting separated.

AMBERGATE, NOTTINGHAM, AND BOSTON RAILWAY COMPANY.

A meeting of shareholders in this company was held at the George and Vulture Tavern, Cornhill, on Friday, the 25th inst., pursuant to an invitation from a part of their body, who had been in communication with the directors, to consult as to the present position of the undertaking.—BENJAMIN BADGER, Esq. (barrister-at-law), took the chair.—The circular calling the meeting was read, and also the report of the correspondence that had taken place with the directors.—The CHAIRMAN complained of the unwillingness of the present directors, either to lease or sell the line to any other company, and strongly urged the necessity of the shareholders looking after their own interests.—Mr. Barnard, Mr. Bryson, Mr. Baker, Mr. Ingram, Mr. Mathey, and several other gentlemen, also addressed the meeting, when it was finally resolved, that a committee should be appointed to watch over the interests of the shareholders at the next general meeting. The following were selected as the committee, with power to add to their number:—Herbert Ingram, Benjamin Badger, S. H. Armitage (of Wakefield), F. Wakefield, Jun. (of Nottingham), H. Phillips, Joseph Davis, and Richard Wilkinson, Esqs.—A vote of thanks was passed to the chairman, and the meeting separated.

NORTH-WESTERN RAILWAY—THE ELECTRIC TELEGRAPH.

We have before us a pamphlet, from Mr. D. P. Gamble, of Crouch End, who is interested with Mr. Nott, the patentee, on the subject of the very questionable treatment to which he has been subjected, during a negociation for the use of the telegraph on the London and North Western Railway, by a portion of the directors, and their secretary, Mr. Creed. We will state the case as briefly as possible. At the close of 1845, having taken an interest in Nott's telegraph, Mr. Gamble requested a shareholder to call on Mr. Glyn, the chairman, and mention the subject. Mr. Creed went to Cornhill the next day, and had the instrument explained to him, when he said he had seen enough to make the directors hesitate before concluding any contract with the Telegraph Company. A few days after, he was desired to send in a tender, which he did on the 29th January, 1846. Mr. Creed then called in Cornhill, objected to the charges, and wanted a sliding scale, starting at 25 miles, and reducing the rate at every succeeding 25 miles. This was done, and a tender afterwards sent in for 500 miles, the company putting up the instrument at their own expense. Various negociations went on—the company still pressing for reduction; till, on Feb. 4, 1846, Mr. Gamble informed them they could make no further reduction. On the 14th, Mr. Creed wrote, informing Mr. Gamble, that "the attention of the *amalgamated board* had been drawn to their telegraph; and that a committee was appointed to investigate and report on the fitness of the instrument for the object of the company, in the transmission of intelligence, with certainty and rapidity, between different points of their extensive line." Some time afterwards, having mentioned to the directors of another line that these negociations were going on, he was warned, that many of the directors, and the engineer, of the North Western Company, were deeply interested in the "Telegraph Company," with Mr. Ricardo. Mr. Gamble, naturally anxious, took a friend to the Euston station, and fairly stated what he had heard, and asked Mr. Creed if it was true, who denied the statement, and assured them that none of the directors or the engineer were so interested; and he did not think they knew anything of the parties; that the company were free and unfettered; and all Mr. Gamble had to do, was to establish the efficiency of the instrument. On this answer, he made arrangements, *at his own expense*, to prove the practicable superiority of their (Gamble and Nott's) telegraph, and obtained permission to fix it between the Northampton and Blisworth stations, on the opposite side to the needle telegraph, that they might be tested against each other. At the meeting of the telegraph committee, he was persuaded to let Mr. Highton be fully acquainted with the working of the telegraph, and that then he need not attend, as Professor Brande's report was the best testimony. Mr. Gamble was, however, present when the committee went to Blisworth, and worked and explained the telegraph himself. Mr. Highton then took them into a private room, where they remained for a long time. Mr. Gamble sent in a copy of Brande's report, which Mr. Highton would not lay before them, but kept in his pocket—it appears Mr. Highton is the company's telegraph engineer, and deeply interested with the Telegraph Company. After a vast deal of evasion—totally unworthy of men in their station of life—Mr. Gamble, on the 16th November, 1846, received a letter from Mr. Creed, formally stating, that the board of directors, on the *recommendation of the committee*, had decided on adopting Cooke and Wheatstone's telegraph for the whole line. He also received a *private communication*, holding out, that if the inefficiency of *their plan was established*, he should get the preference ultimately. Now, Mr. Creed had shown Mr. Gamble a box-full of Mr. Highton's reports, stating how often the needle telegraph was out of order, and that he could not rely on its correct performance for an hour together. Capt. Moorsom (one of the committee) appears not to have been made cognizant of all their proceedings, for he had not even seen Professor Brande's report—*he was favourable to Nott's plan*. We fear the public will draw an unfavourable opinion, from this circumstance, of the conduct of those powerful bodies—railway directorates; and which, indeed, we must confess, looks very much like an addition to the already too numerous instances on record, where the pecuniary advantages of the shareholders, and the real benefit of the public, have been set aside, to make way for individual interest, and private favouritism.

EXTENT OF THE BRITISH TELEGRAPH.

We quote, from an interesting little hand-book on this subject, the following enumeration of the lines on which this wonderful agent is hourly at work:—

	Miles.
Eastern Counties—Colchester and Cambridge lines; Hertford, Ely, and Peterborough, and Thames Junction Branches	100
Eastern Union—Colchester to Ipswich	17
Norfolk Line—Brandon to Yarmouth	98
Midland Counties—main lines and branches	210
Great North of England	54
Newcastle and Darlington—main line and branches	55
Great Western—London to Slough	19
South-Eastern—main line and branches	152
South-Western	99
Blackwall	5
South Devon	20
Wolverton and Peterborough	57
Hull and Selby—Extension to Milford	41
York and North Midland	23
York and Scarborough	43
Sheffield and Manchester	3
Preston and Wyre	20
Total	1056
Lines of telegraph in progress on the South-Eastern, Norfolk, Leeds and Peterborough, Manchester and Leeds, &c.	270
Lines of telegraph about commencing in the north of England, including the London and Birmingham line, and its various branches, &c.	1000
Total, about	*Miles* 2326

Length of Electric Telegraph now in Use in America.

Albany to Buffalo	*Miles* 350
New York to Boston	220
Ditto to Albany	150
Ditto to Washington	230
Washington to Baltimore	40
Baltimore to Philadelphia	97
Philadelphia to New York	88
New York to Newhaven	84
Newhaven to Hartford	30
Hartford to Springfield	20
Springfield to Boston	98
Albany to Rochester	252
Total	*Miles* 1659

A more detailed account of the telegraphic communication of the United States appeared in the *Mining Journal* of the 5th inst., in which it is shown, that the total length, when the lines under contract are completed, will be 6549 miles.

BIRMINGHAM AND OXFORD JUNCTION RAILWAY.
THIRD CALL OF FIVE POUNDS PER SHARE.

The directors having passed a resolution, requiring the shareholders to pay a further CALL of FIVE POUNDS on each and every share held by them respectively, on the 2d day of August, 1847,—Notice is hereby given, that the shareholders are required to PAY such call on the day appointed, to one of the under-mentioned bankers; and, in default thereof, they will be charged with interest, at the rate of 5 per cent. per annum, from that date until the said call is actually paid:—

The Birmingham Banking Company } Birmingham.
Messrs. Attwoods, Spooner, and Co. }
Or at their London Agents:
Messrs. Jones Loyd and Co., for the Birmingham Banking Company.
Messrs. Spooner, Attwood, and Co., for Messrs. Attwoods and Co.; and at
Messrs. Moss and Co., Liverpool, for the Birmingham Banking Company.

A circular will be sent to each shareholder, which must be deposited at the bankers when the call is paid. By order of the board of directors,
JOHN WM. KIRKSHAW, Secretary.

34, Bennett's-hill, Birmingham, June 12, 1847.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS of LOANS on DEBENTURES, in sums of not less than £500, for three or five years, bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.

Tenders to be addressed to this office.—Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.
By order of the directors, D. RANKINE, Treasurer.
Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

MANCHESTER, BUXTON, MATLOCK, AND MIDLANDS JUNCTION RAILWAY.
TO CONTRACTORS.

The directors of the MANCHESTER, BUXTON, MATLOCK, AND MIDLANDS JUNCTION RAILWAY COMPANY are prepared to RECEIVE TENDERS for the FORMATION and COMPLETION of the intended LINE of RAILWAY from the crossing of the River Derwent, at 2 miles 50¼ chains from Ambergate to the Cromford Meadows, at 4 miles 62 chains from Ambergate—being a distance of 2 miles 11¼ chains, or thereabouts; including all excavations, embankments, tunnels, rivers, and canals, diversions, fences, culverts, drains, crossings, retaining-walls, occupation bridges, and other works, and the laying of the permanent way, but exclusive of the river bridges.

The contract includes the Lea Wood Tunnel, about 300 yards in length, and also a diversion of the River Derwent, and of the Meerbrook Sough and Brook, and a diversion of the Cromford Canal.

Drawings and specifications of the proposed works may be seen at the engineer's office, at Cromford, from the 21st inst. to the 6th of July next inclusive; and tenders, in a form to be obtained at the said offices, must be forwarded to the secretary, at his office, at Matlock, on or before the said 6th of July. The directors will meet at Matlock, to take the tenders into consideration, on Friday, the 9th of July, at noon.

The party whose tender shall be accepted will be required to enter into a contract, in a form to be approved by the company, and to give a bond, with two satisfactory sureties, for the due execution of such contract.

The directors do not bind themselves to accept the lowest tender.
By order, FRED. WRAGGE, Secretary.
Company's Offices, Matlock, June 11, 1847.

IMPORTANT TO RAILWAY COMPANIES.

PATENT KAMPTULICON COMPANY, 18, CORNHILL.
This company having completed their new factory, are prepared to supply railway managers and contractors with an elastic material (perfectly non-absorbent) to place between the rails and sleepers, and between the frames and bodies of carriages, to prevent jarring, and, consequently, wear and tear. The elastic planking is strongly recommended to be used for the backs and sides of carriages, to prevent splinters when accidents occur.
By order of the board, P. G. GREVILLE, Secretary.

THE LATE ACCIDENT AT THE DEE BRIDGE.

PATENT METALLIC SAND, OR ENGLISH POZZOLANO.
GREAT REDUCTION IN PRICE.

Extensively used in mortar and concrete at the great tunnels on the London and Birmingham Railway, in the foundations of the new Houses of Parliament, sea walls on the South Devon Railway, Clifton Reservoirs, and other works of importance.

From its chemical qualities, the metallic sand forms, in admixture with lime and common sand, a cement, mortar, or concrete, of flinty hardness, and almost entire incompressibility; and, from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone—requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.—Further information will be given, and specimens shown, on application to
Mr. C. K. DYER, 4, New Broad-street, London.

ANALYSIS OF THE PATENT METALLIC SAND.

Silica	49	Lime	6
Oxide of iron	32	Magnesia	2
Alumina	8	Zinc	3

FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES,
RAILWAY CRANES, FIRE-ENGINES, GAS, &c.
PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION.

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.
FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c.
VULCANISED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

TO ENGINEERS, BOILER-MAKERS, AND OTHERS.—
LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.
W. H. RICHARDSON, JUN., & CO., DARLASTON, *STAFFORDSHIRE*,
MANUFACTURE all DESCRIPTIONS of WELDED WROUGHT-IRON TUBES, for STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. Reese's recent invention (patented August, 1846).—Address as above.

UNDER ROYAL PATRONAGE.

KEATING'S COUGH LOZENGES are indispensably necessary, both for the Cure and Prevention of Coughs, Asthmatic, and all Pulmonary Complaints, during this changeable weather.

CURE OF COUGH OF EIGHT YEARS' STANDING, ACCOMPANIED WITH SHORTNESS OF BREATH!
Birkenhead, near Liverpool, Jan. 8, 1847.

SIR,—I have been afflicted with a severe cough and shortness of breath for nearly eight years, and after trying various remedies, did not find myself any better. I purchased a small box of KEATING'S LOZENGES of you, from which I found great benefit. The second box, 2s. 9d. size, completely cured me, and I can now breathe more freely, and am as free from cough as ever I was in my life. Hoping that others, similarly afflicted, will avail themselves of so certain and safe a remedy,
I remain, Sir, yours faithfully, WILLIAM ANDERSON.
To Mr. Geo. H. Howell, chemist, 72, Dale-street, Liverpool.

Prepared and sold, in boxes at 1s. 1½d.; tins 2s. 9d., 4s. 6d., and 10s. 6d. each, by THOMAS KEATING, chemist, &c., No. 79, St. Paul's Churchyard, London.

N.B.—The safety attendant on the use of these Lozenges, together with their agreeable flavour, has given them a well-merited popularity.

SIR JAMES MURRAY'S FLUID MAGNESIA.—Prepared under the immediate care of the inventor, and established for upwards of 30 years by the profession, for removing BILE, ACIDITIES, and INDIGESTION—restoring APPETITE, preserving a moderate state of the bowels, and dissolving uric acid in GRAVEL and GOUT; also as an easy remedy for SEA SICKNESS, and for the febrile affection incident to childhood it is invaluable.—On the value of magnesia, as a remedial agent, it is unnecessary to enlarge; but the fluid preparation of Sir James Murray is now the most valued by the profession, as it entirely avoids the possibility of those dangerous concretions usually resulting from the use of the article in powder, and in the over-dosed liquids of detected imitators.—Sold by the sole consignee, Mr. Bailey, of North-street, Wolverhampton; and by all wholesale and retail druggists and medicine agents throughout the British empire, in bottles, 1s., 2s. 6d., 3s. 6d., 5s. 6d., 11s., and 21s. each.
The Acidulated Syrup, in bottles, 2s. each.

N.B.—Be sure to ask for "Sir James Murray's Preparation," and to see that his name is stamped on each label, *in green ink*, as follows:—"James Murray, Physician to the Lord Lieutenant."

ALBERT ADVENTURE—NOW IN WORK, ON THE COST-BOOK PRINCIPLE.
In 1000 shares.—Deposit 5s. per share.

NO FURTHER APPLICATIONS for SHARES will be RECEIVED after WEDNESDAY, the 30th inst.

Applications for shares are to be made to Mr. James Lane, sharebroker, 75, Old Broad-street, London: the Purser, Mr. F. Harvey, Hayle, Cornwall; or the London Secretary, Mr. W. Witcomb, Johnson's Chambers, 167, Fleet-street, London, of whom the prospectus may be obtained.—The prospectus can also be had at the office of the *Mining Journal*, 26, Fleet-street, London.

COOMBE VALLEY SLATE COMPANY.
OFFICE—3, WHITEFRIARS-STREET, LONDON.
FOR SALE, TWO HUNDRED AND EIGHTY-SEVEN RESERVED SHARES.
Price.....£1 15s. 0d.

Apply to Mr. Lane, 75, Broad-street, City; Mr. Oliver, Coggeshall, Essex; Mr. Mansell, Guildford; or of the secretary, at the office.—*See* Report in this day's *Mining Journal*.

Also, FIFTY TONS of FIRST FLOORINGS, in the rough, at the quarry price, 1½d. per foot, sawn and planed; slab for floors, shelves, chimney-pieces, pavings, copings, cisterns, &c., from 2½d. to 6d. per foot—free on board the ship; freight 15s. per ton, to any part of the south coast, or London.—Insurances effected by the company.

GEORGIA TIN MINES, divided into 2048 shares, and worked ON THE COST-BOOK SYSTEM.
The necessary arrangements having been made for carrying out the operations of the company, all future communications are requested to be addressed to the offices of the company, 21, THROGMORTON-STREET, LONDON, where the specimens and plans, with the correspondence, may be seen.

NORTH WALES MINING COMPANY,
COUNTY OF MERIONETH.
Divided into 12,500 shares, limited to £10 each, and carried out upon the Cost-book System, with a deposit of £2 10s. per share.
OFFICES, No. 2, NEW BROAD-STREET, LONDON.
Applications for shares and prospectuses to be made at the office.
W. T. GRIFFITHS, Purser.

PATENT GALVANISED IRON AND WIRE ROPE WORKS,
MILLWALL, POPLAR.
ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging.

BRUNTON'S PATENT ORE-DRESSING FRAME.—These FRAMES, for DRESSING TIN, COPPER, and OTHER MINERALS, having been in use, and given satisfaction, on several mines, during the last two years, the PATENTEE begs to call the attention of all Adventurers and Mine Agents to the great advantages, both as regards economy of labour and the great increase of mineral obtained by their adoption. The following gentlemen can certify as to their utility:—Thos. Bolitho and Sons; P. N. Johnson, Esq.; Capt. Jos. Vivian, Cook's Kitchen Mine; Capt. R. Kerrick, St. Ives Consols; Capt. R. Edwards, Wheal France; Capt. W. Teague, Wheal Grey; Capt. James Miners, and Capt. Matthew Rogers, Carn Brea Mines.

IMPROVED LIFTING JACKS,
MANUFACTURED BY
GALLOWAYS' AND CO.,
KNOTT MILL,
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IMPROVED RATCHET JACK. HALEY'S PATENT LIFTING JACK.

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AGRICULTURIST CATTLE INSURANCE COMPANY,
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And No. 9, SOUTH ST. ANDREW-STREET, EDINBURGH.
(Registered under 7 and 8 Victoria, cap. 110.)
Subscribed Capital £250,000.

This company was established for the protection of FARMERS and AGRICULTURISTS against Loss by DISEASE or ACCIDENT among their LIVE FARMING STOCK, in June, 1845; and, on the 31st of December, 1846, had issued 15,000 agreements, and paid upwards of £33,000 for losses.—This being a PROPRIETARY COMPANY, with a *subscribed capital*, insurers incur no liability beyond the amount of their premiums, and are put to no additional expense. *Three-fourths* of the insured amount is paid in case *of loss*, and *claims* are punctually paid every week.

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25	1 19 10	2 2 10	1 4 0	1 4 8
30	2 5 7	2 9 1	1 5 9	1 6 4
40	3 0 7	3 5 4	1 9 10	1 11 4
50	4 4 7	4 11 4	2 1 6	2 5 7

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This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 30 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Annual may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£108 9 11	£15 0 4	£445 0 0
			1838	192 3 0	97 1 4	13 10 2	395 11 1
			1839	165 11 10	74 5 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

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